

**DIGITAL FINANCE, FINANCIAL MANAGEMENT, AND PERFORMANCE OF
SMALL AND MEDIUM-SIZED ENTERPRISES IN NAIROBI COUNTY, KENYA**

BY

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MASTER OF SCIENCE IN COMMERCE (FINANCE AND INVESTMENT)

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**A DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT OF THE
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OCTOBER, 2025

DECLARATION

I declare that this research is my original work and has not been previously published or submitted anywhere for the award of a degree. I also declare that this contains no material written or published by other people except where due reference is made and the author duly acknowledged.


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I do hereby confirm that I have examined the master's dissertation of

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And have certified that a; revisions that the dissertation panel and examiners recommended have been adequately addressed.

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ABSTRACT

Small and Medium-Sized Enterprises (SMEs) contribute approximately 40 percent of Kenya's Gross Domestic Product (GDP) and employ over 80 percent of the workforce. Despite their crucial role, many SMEs continue to face limited access to finance, weak financial management, and inconsistent tax compliance. This study examined the effect of digital finance on the financial performance of SMEs in Nairobi County, Kenya, with financial management practices assessed as a mediating variable. The study focused on four dimensions of digital finance: digital payment systems, digital lending services, digital financial record-keeping, and digital taxation and compliance, and their impact on profitability, liquidity, growth, and operational efficiency. A descriptive cross-sectional design was adopted, targeting 400 SMEs across various sectors, from which 371 valid responses were analysed using SPSS Version 29. Descriptive and inferential analyses, including correlation and multiple regression, were employed to determine both direct and mediated effects. The findings indicated that digital payment systems had a strong positive correlation with financial performance ($r = 0.712$, $p < 0.001$), while digital lending ($r = 0.648$, $p < 0.01$), digital record-keeping ($r = 0.681$, $p < 0.01$), and digital taxation ($r = 0.623$, $p < 0.01$) also showed significant relationships. Regression results revealed that digital finance collectively explained 63.4% of the variance in financial performance ($R^2 = 0.634$, $F(4,366) = 74.82$, $p < 0.001$). SMEs adopting integrated digital systems recorded a 22% reduction in transaction costs, a 17% increase in sales turnover, and a 20% improvement in decision-making efficiency. Financial management practices significantly mediated this relationship ($\beta = 0.287$, $p < 0.01$), amplifying the benefits of digital adoption. The study concludes that the integration of digital financial technologies with effective financial management practices enhances SME profitability, liquidity, and sustainability. It recommends strengthening digital literacy, promoting affordable fintech access, and reinforcing supportive policy frameworks to accelerate Kenya's transition to a technology-driven SME economy.

Operational terms: *Digital Finance, Digital Payment Systems, Digital Lending, Financial Record-Keeping, Digital Taxation, Financial Management, Small and Medium-Sized Enterprises (SMEs)*

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DEDICATION

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ACRONYMS AND ABBREVIATIONS

AI: Artificial Intelligence

CAPEX: Capital Expenditure

CBK: Central Bank of Kenya

DOI: Diffusion of Innovation

GDP: Gross Domestic Product

ICT: Information and Communication Technology

IoT: Internet of Things

KIPPRA: Kenya Institute for Public Policy Research and Analysis

KRA: Kenya Revenue Authority

M-Pesa: Mobile Payment System by Safaricom

PEOU: Perceived Ease of Use

PU: Perceived Usefulness

ROA: Return on Assets

RBV: Resource-Based View

SMEs: Small and Medium-Sized Enterprises

SPSS: Statistical Package for the Social Sciences

UTAUT: Unified Theory of Acceptance and Use of Technology

OPERATIONAL DEFINITION OF TERMS

Digital Finance: The use of digital technology to provide financial services such as online payment platforms, digital wallets, and lending services, enhancing financial inclusion and operational efficiency.

Digital Lending: The provision of loans through digital platforms, bypassing traditional banking institutions and offering flexible credit solutions to SMEs.

Digital Payment Systems: Platforms that allow for electronic transactions, including mobile payments and online financial transactions, supporting business cash flow and reducing transaction costs.

Financial Performance: Metrics such as profitability, liquidity, and solvency, used to assess the financial health of SMEs.

Perceived Ease of Use (PEOU): The degree to which users find digital financial tools easy to use, requiring minimal effort.

Perceived Usefulness (PU): The extent to which users believe that using digital financial tools will enhance their business performance.

Small and Medium-Sized Enterprises (SMEs): Businesses with relatively small operations that are independently owned, particularly those registered and operating in Nairobi County, Kenya.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The financial landscape has undergone a profound transformation over the past two decades, driven by rapid technological advancement, changing customer expectations, and the global digital revolution. Traditional financial systems that once relied on manual transactions and physical documentation have gradually been replaced by digital platforms that offer speed, transparency, and convenience. The emergence of digital finance has particularly reshaped the way individuals and enterprises access, manage, and utilize financial resources, leading to new opportunities for inclusion, efficiency, and growth (World Bank, 2023). According to Ozili (2022), digital finance is the delivery of financial services through digital channels such as mobile phones, the internet, and electronic cards, covering a broad range of tools including digital payments, digital lending, record systems, and digital taxation platforms. The International Monetary Fund (IMF, 2024) further notes that the diffusion of digital finance has significantly improved financial accessibility, transparency, and affordability, enabling both individuals and enterprises to engage more effectively with the formal economy.

Across the world, digital financial solutions have become instrumental in promoting entrepreneurship, improving liquidity management, and expanding financial inclusion. Developed economies have harnessed technologies such as open banking, algorithmic credit scoring, and digital accounting systems to streamline SME operations and enhance credit access (OECD, 2021; European Commission, 2023). Similarly, in developing regions, digital financial innovations have been pivotal in bridging the gap between the formal and informal sectors. For

instance, mobile money platforms and digital lending systems have enabled millions of unbanked populations to access credit, manage transactions, and improve business operations (GSMA, 2023). Sub-Saharan Africa has emerged as a leader in this transformation, accounting for over 70% of global mobile money transactions, with Kenya standing out as a trailblazer in mobile financial innovation (CBK, 2023).

In Kenya, digital finance has become deeply embedded in the economic system through platforms such as M-Pesa, Airtel Money, and T-Kash. These systems have revolutionized financial inclusion by allowing millions of individuals and enterprises to transact securely without traditional bank accounts. SMEs, in particular, have benefited from digital record-keeping, digital lending, and online tax platforms that support daily financial operations. However, while Kenya's digital finance ecosystem has attracted global recognition, the degree to which these innovations translate into measurable improvements in SME financial performance remains uncertain (Visa, 2024). Many enterprises continue to face persistent challenges such as limited credit access, weak record-keeping, and tax compliance issues despite the widespread availability of digital tools. This paradox suggests that digital adoption alone may not guarantee improved financial outcomes without supporting factors such as sound financial management practices.

To understand this complex relationship, it is essential to examine digital finance not only as a technological innovation but also as an integral part of enterprise financial management and performance improvement. The following subsections therefore discuss the main thematic areas underpinning this study, namely digital finance, SME financial performance, the context of SMEs in Nairobi County, and the moderating role of financial management practices.

1.1.1 Digital Finance

The rapid advancement of digital technologies has transformed global financial systems, reshaping how individuals and enterprises access and manage financial services. Over the past decade, the convergence of mobile technology, fintech innovations, and regulatory reforms has made digital finance a cornerstone of economic efficiency and inclusion (World Bank, 2023). According to Ozili (2022), digital finance includes digital payments, digital lending, digital record systems, and online tax platforms. The IMF (2024) notes that digital finance has enhanced financial accessibility, transparency, and cost efficiency, removing barriers that historically limited small enterprises' participation in formal finance.

Globally, digital finance has been recognized as a driver of business resilience and inclusion. In developed economies, SMEs benefit from advanced digital ecosystems such as PayPal Working Capital and Square Capital, which integrate payments, credit, and analytics for improved cash flow management (OECD, 2021). Within the European Union, the Revised Payment Services Directive (PSD2) has enabled open banking, facilitating seamless financial integration and data sharing across platforms (European Commission, 2023). In developing regions, digital finance has been critical in promoting financial inclusion and SME growth. India's Unified Payments Interface (UPI) has redefined real-time inter-bank transfers, while in Nigeria and Bangladesh, platforms like Paga, Opay, and bKash have expanded access to digital savings and lending (GSMA, 2023; World Bank, 2023). Sub-Saharan Africa, led by Kenya, has become a hub for mobile money innovation, but the financial gains from digital adoption vary widely due to differences in firm capacity, regulation, and financial management maturity (Ngugi et al., 2023).

1.1.2 Financial Performance of SMEs

Financial performance refers to a firm's ability to generate sustainable profits, maintain adequate liquidity, and efficiently utilize resources to achieve its financial goals. For SMEs, financial performance is a critical measure of operational success and long-term survival, particularly in competitive and resource-constrained environments. Key indicators of financial performance include profitability, return on investment (ROI), sales growth, and cash flow adequacy (Mungai & Waweru, 2023). Globally, SMEs adopting digital tools report improved efficiency, reduced costs, and better financial control (OECD, 2021).

Digital finance contributes to improved financial performance by providing fast, reliable, and transparent systems for transactions, lending, and record-keeping. Digital payment platforms reduce transaction delays and leakage, digital credit products provide working capital access, and automated record systems facilitate timely decision-making and accountability (IMF, 2024). However, research indicates that these benefits are not universal; their effectiveness depends on a firm's managerial capacity, digital literacy, and financial governance structures (Ngugi et al., 2023). Thus, evaluating how SMEs convert digital financial tools into measurable financial outcomes remains essential.

1.1.3 Small and Medium Enterprises (SMEs) in Nairobi County

Small and Medium Enterprises (SMEs) are fundamental to Kenya's economy, accounting for nearly 40% of the Gross Domestic Product (GDP) and over 70% of total employment (KNBS, 2023). Nairobi County serves as Kenya's commercial hub and houses a diverse range of SMEs across manufacturing, services, and trade sectors. The city's concentration of technology-driven enterprises provides an ideal setting to study how digital financial tools influence business performance.

Despite their economic significance, SMEs in Nairobi face structural and operational challenges. Limited access to affordable financing, poor record-keeping, inadequate cash flow management, and compliance burdens continue to undermine performance (KRA, 2023). Although mobile money and digital platforms provide potential solutions, their adoption remains uneven. The CBK (2023) reports that only 37% of SMEs use mobile banking for transactions, and fewer than 30% use digital accounting systems. This inconsistency suggests that while digital tools exist, SMEs may lack the management capacity or strategic understanding to fully harness them for improved performance.

1.1.4 The Role of Financial Management Practices

The success of digital finance in enhancing SME performance depends significantly on the strength and consistency of underlying financial management practices (FMPs). These practices encompass budgeting, record maintenance, financial analysis, cash flow monitoring, and compliance with regulatory requirements (Njoroge & Gathogo, 2021). FMPs serve as the foundation upon which enterprises interpret financial information, guide investment decisions, and ensure operational stability. When effectively implemented, they provide structure and accountability that enable firms to optimize their use of financial resources and adapt more efficiently to market changes.

SMEs with strong financial management practices are more likely to translate digital finance adoption into measurable financial gains. Sound budgeting and accurate record-keeping enhance the quality of financial data generated through digital systems, while routine financial analysis helps managers make informed decisions based on real-time information. Such firms can better utilize digital tools for cash flow forecasting, performance evaluation, and compliance monitoring, leading to greater profitability and business resilience. Conversely, enterprises

lacking structured FMPs may face challenges in data interpretation, oversight, and long-term planning, reducing the impact of digital innovation on overall performance (Ngugi et al., 2023).

In the Kenyan context, many SMEs continue to operate informally without formalized financial management systems. This informality limits their ability to strategically integrate digital finance solutions into daily operations or to extract meaningful insights from digital data. Challenges such as low financial literacy, limited training in digital accounting, and minimal exposure to structured reporting frameworks further constrain their ability to maximize returns from digital tools. As a result, even in a technologically advanced environment like Nairobi County, the potential benefits of digital finance remain underexploited due to managerial and institutional weaknesses (Mungai & Waweru, 2023).

Understanding how financial management practices moderate the relationship between digital finance adoption and SME performance is therefore critical. Firms that combine technological capability with sound management practices are better positioned to achieve financial efficiency, accountability, and sustainability. This study, consequently, seeks to examine the effect of digital finance on the financial performance of SMEs in Nairobi County, Kenya, while assessing the moderating role of financial management practices. The insights generated will help bridge existing knowledge gaps and inform policy and managerial strategies aimed at strengthening SME competitiveness in the evolving digital economy.

1.2 Statement of the Problem

Despite Kenya's global recognition as a digital finance leader, the financial performance of many Small and Medium-Sized Enterprises (SMEs) in Nairobi County remains suboptimal. This paradox presents a critical concern: why have Kenya's advanced digital financial innovations not

translated into consistent improvements in SME financial performance? Digital finance has revolutionized business operations worldwide by expanding access to credit, lowering transaction costs, and improving operational transparency. However, evidence suggests that a substantial proportion of Kenyan SMEs have yet to fully leverage these technologies to enhance profitability, liquidity, and sustainability (FinAccess, 2022).

Empirical data underscores this persistent gap. The Kenya Institute for Public Policy Research and Analysis (KIPPRA, 2023) reports that 42% of SMEs in Nairobi still rely primarily on cash transactions, citing factors such as mistrust of digital systems, technical limitations, and inadequate digital literacy. Similarly, FinAccess (2022) found that only 28% of SMEs had accessed digital loans in the preceding two years, mainly due to high interest rates and insufficient credit scoring data. This underutilization of digital financial tools constrains SMEs' ability to improve cash flow management, expand market access, and build financial resilience.

From a scholarly perspective, existing studies offer mixed and inconclusive findings regarding the relationship between digital finance and SME performance. While some researchers report a positive correlation between digital finance adoption and business growth (Ngugi & Karugu, 2021), others observe weak or statistically insignificant outcomes, often linking this to poor financial management practices and limited digital competence (Mutuku & Wanjohi, 2022). Methodologically, most prior studies have either treated financial management as a control variable or excluded it altogether, leaving a critical empirical gap in understanding how financial management practices moderate the impact of digital finance on SME performance.

The contextual environment in Nairobi County further amplifies this challenge. SMEs in the city operate within a highly competitive, high-cost market characterized by informal

record-keeping, irregular cash flows, and limited access to structured financial support (KNBS, 2023; KRA, 2023). Although government-led digitization initiatives, such as the Ajira Digital Program and the Hustler Fund Digital Platform, aim to promote SME adoption of financial technologies, uptake remains uneven (Ministry of ICT, 2023). These conditions raise a fundamental question: what factors hinder the translation of Kenya's advanced digital finance infrastructure into measurable financial performance gains for SMEs?

Therefore, this study seeks to address this knowledge and practice gap by examining the effect of digital finance on the financial performance of SMEs in Nairobi County, while assessing the moderating influence of financial management practices. The findings are expected to generate actionable insights for policymakers, financial institutions, and SME owners on how digital financial tools can be optimized to enhance business sustainability, competitiveness, and inclusive economic growth.

1.3 Research Objectives

1.3.1 Main Objective

To examine the effect of digital finance, financial management on the financial performance of Small and Medium-Sized Enterprises (SMEs) in Nairobi County, Kenya, with financial management practices as a moderating factor.

1.3.2 Specific Objectives

The study sought to achieve the following specific objectives:

- i. To determine the effect of digital payment systems on the financial performance of SMEs in Nairobi County.

- ii. To evaluate the effect of digital lending services on the financial performance of SMEs in Nairobi County.
- iii. To assess the effect of digital financial record-keeping systems on the financial performance of SMEs in Nairobi County.
- iv. To examine the effect of digital taxation systems on the financial performance of SMEs in Nairobi County.
- v. To establish the moderating effect of financial management practices on the relationship between digital finance and the financial performance of SMEs in Nairobi County.

1.4 Research Questions

The study was guided by the following research questions:

- i. What is the effect of digital payment systems on the financial performance of SMEs in Nairobi County?
- ii. What is the effect of digital lending services on the financial performance of SMEs in Nairobi County?
- iii. What is the effect of digital financial record-keeping systems on the financial performance of SMEs in Nairobi County?
- iv. What is the effect of digital taxation systems on the financial performance of SMEs in Nairobi County?
- v. How do financial management practices moderate the relationship between digital finance and the financial performance of SMEs in Nairobi County?

1.5 Significance of the Study

1.5.1 Policymakers

This study is expected to provide empirical insights for policymakers seeking to strengthen Kenya's digital finance ecosystem. By identifying the factors that enhance or hinder SME adoption of digital finance, the findings will inform targeted interventions such as financial literacy initiatives, credit support programs, and digital infrastructure expansion. The results may also guide the development of balanced regulatory frameworks that encourage innovation while ensuring consumer protection and financial inclusion.

1.5.2 Small and Medium-Sized Enterprises

For SMEs, the findings will demonstrate how integrating digital financial tools can improve operational efficiency, profitability, and business sustainability. By highlighting the moderating role of financial management practices, the study encourages SME owners and managers to not only adopt digital solutions but also enhance their financial planning, budgeting, and record-keeping practices to optimize performance outcomes.

1.5.3 Financial Institutions

The study's findings can help banks, fintech's, and microfinance institutions better understand SME financial behaviour and performance outcomes. This knowledge will support the design of tailored digital financial products, flexible credit assessment models, and responsive repayment systems that meet the specific needs of SMEs while promoting greater financial inclusion and business resilience.

1.5.4 Researchers and Academia

The study contributes to the theoretical and empirical discourse on digital finance and SME performance. By incorporating financial management practices as a moderating variable, it extends the application of theories such as the Resource-Based View (RBV) and the Unified Theory of Acceptance and Use of Technology (UTAUT). Future researchers can build upon its framework to explore the evolving relationship between digital finance adoption and enterprise performance across different sectors and regions.

1.5.5 Broader Economy

SMEs remain a cornerstone of Kenya's economic growth, employment creation, and innovation. Enhancing their financial performance through digital finance adoption has the potential to boost productivity, expand market participation, and strengthen economic resilience. Consequently, this study aligns with Kenya's Vision 2030 and the Bottom-Up Economic Transformation Agenda (BETA), contributing to the broader goal of inclusive, sustainable, and technology-driven economic development.

1.6 Scope of the Study

This report examined the relationship between digital finance and the financial performance of Small and Medium-Sized Enterprises (SMEs) in Nairobi County, Kenya. The study focused on four key dimensions of digital finance: digital payments, digital lending, digital financial record-keeping, and digital taxation systems. It also incorporated financial management practices as a moderating factor influencing how digital finance affected financial performance.

The research covered SMEs operating in the retail, service, and manufacturing sectors within Nairobi County. These sectors were selected because they represented the majority of

active enterprises in the county and exhibited varied levels of digital finance adoption. Nairobi County was chosen as the study area since it serves as Kenya's main commercial and technological hub, with a high concentration of SMEs integrating digital solutions into their operations.

Data was collected using structured questionnaires administered to SME owners and managers over three months. The information gathered was analysed to determine how the different components of digital finance influenced key indicators of financial performance, including profitability, liquidity, and operational efficiency.

The findings provided insights into how digital finance contributed to SME performance in Nairobi County and demonstrated the importance of sound financial management practices in maximizing these benefits. The results also offered useful guidance to policymakers, financial institutions, and business owners seeking to strengthen digital finance adoption and enhance SME financial outcomes.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews existing literature relevant to the study on the effect of digital finance on the financial performance of Small and Medium-Sized Enterprises (SMEs) in Nairobi County. The review is structured around key dimensions of digital finance, including digital payment systems, digital lending, digital financial record-keeping, and digital taxation systems. It also considers the moderating role of financial management practices in shaping the relationship between digital finance and SME performance. The discussion integrates both theoretical and empirical perspectives to provide a deeper understanding of the mechanisms through which digital financial innovations influence firm outcomes. By analysing and comparing previous studies, this chapter highlights consistencies, contradictions, and methodological limitations in existing research. The review also identifies existing knowledge gaps and elaborates on how this study addresses them.

2.2 Theoretical Review

This section discusses the key theories underpinning the relationship between digital finance and SME financial performance. The theories provide a conceptual foundation for understanding how and why digital finance influences business outcomes, while also highlighting the moderating role of financial management practices.

2.2.1 The Unified Theory of Acceptance and Use of Technology (UTAUT)

The Unified Theory of Acceptance and Use of Technology (UTAUT), developed by Venkatesh et al. (2003), integrates constructs from eight major technology acceptance models, including the

Technology Acceptance Model (TAM) and the Theory of Planned Behaviour (TPB). It identifies four principal determinants of technology adoption: performance expectancy, effort expectancy, social influence, and facilitating conditions, moderated by gender, age, experience, and voluntariness of use. Subsequent extensions (Williams, Rana & Dwivedi, 2015) have reinforced its applicability across public and private sectors.

In the context of Nairobi's SMEs, UTAUT provides a strong theoretical foundation to explain variations in the adoption of digital finance tools such as mobile payment platforms, digital lending systems, and digital taxation applications like eTIMS and iTax. Performance expectancy, the perceived usefulness of a technology in improving efficiency, helps explain why SMEs adopt mobile payment and tax filing platforms to streamline operations (Wanyoike et al., 2020). Effort expectancy, referring to perceived ease of use, is equally critical in environments where digital literacy remains uneven. Complex taxation systems or unfriendly interfaces can deter adoption, particularly among microenterprises with limited technical capacity (Adu et al., 2021).

Social influence, which captures peer, regulatory, and institutional pressures, is highly relevant in Kenya's evolving regulatory landscape. The Kenya Revenue Authority's (KRA) enforcement of electronic tax invoicing via eTIMS has intensified compliance pressure, shaping SME behaviour beyond voluntary adoption (KRA, 2023). Moreover, SMEs frequently benchmark against peers, suppliers, and accountants when evaluating digital tools, amplifying the social diffusion of innovation. Facilitating conditions, such as access to reliable internet, affordable smartphones, and training, remain foundational, especially within Nairobi's informal sectors where infrastructural disparities persist (Mutinda & Oloko, 2022).

Empirical studies affirm UTAUT's validity in digital finance research. Dwivedi et al. (2019) identified effort expectancy and infrastructural support as key determinants of digital adoption

among microenterprises in emerging economies. Similarly, Asongu, Nwachukwu, and Pyke (2020) observed that mobile money uptake across Sub-Saharan Africa depends heavily on perceived usefulness and network reliability. In Ghana, Abu et al. (2022) found that digital tax compliance was positively associated with SMEs' trust in system efficiency and institutional support. These findings underscore UTAUT's cross-contextual relevance to Africa's digital transformation narrative.

However, the model faces notable critiques. Tamilmani et al. (2021) argue that its focus on behavioural intention overlooks structural constraints such as financial costs, policy ambiguity, and infrastructural inequality, factors especially salient in Nairobi's SME ecosystem. Similarly, Mothobi and Grzybowski (2017) contend that UTAUT's individual-level assumptions inadequately account for collective and informal decision-making processes common in developing economies. These gaps suggest that while UTAUT effectively explains why adoption occurs, it is less suited to capturing how contextual and managerial dynamics moderate this relationship.

Despite these limitations, UTAUT remains highly applicable to this study. Its constructs align closely with the technological dimensions of digital finance, payments, lending, and taxation, while its flexibility allows integration with contextual variables such as financial literacy and institutional enforcement. In this study, UTAUT provides the behavioural foundation for understanding SME adoption of digital finance tools in Nairobi County, offering insight into both the motivational and environmental factors that shape usage patterns.

2.2.2 Financial Intermediation Theory

The Financial Intermediation Theory, first proposed by Gurley and Shaw (1960) and later refined by Diamond and Dybvig (1983), provides an important foundation for understanding how

financial institutions facilitate the efficient flow of funds between savers and borrowers. The theory posits that financial intermediaries emerge to bridge gaps created by information asymmetry, transaction costs, and liquidity preferences. Through mechanisms such as risk pooling, maturity transformation, and information screening, intermediaries' channel idle funds toward productive investments, thereby promoting capital formation, enterprise development, and economic growth (Levine, 2005).

Over the decades, this theory has been central to explaining the role of traditional banks, microfinance institutions, and savings cooperatives in financial markets. However, technological advancements have redefined intermediation, extending it beyond traditional brick-and-mortar systems to digital platforms (Asongu & Odhiambo, 2019). In contemporary settings, especially within developing economies such as Kenya, digital lenders and fintech firms perform intermediary functions by leveraging technology and data analytics to provide access to credit, savings, and payment services to underserved sectors. This evolution has given rise to digital financial intermediation, a process where technology substitutes or complements conventional banking intermediation (Kariuki & Kinyua, 2022).

Digital financial intermediation operates on the same principles as classical models but through distinct mechanisms. While traditional intermediaries rely on collateral-based lending and physical verification, digital platforms use alternative data sources such as mobile money transaction histories, airtime purchases, and business cash flows to assess creditworthiness. This innovation significantly reduces information asymmetry, one of the central challenges addressed by the original theory. In the context of Nairobi's SMEs, where formal financial records and collateral are often limited, these data-driven mechanisms have been instrumental in extending credit to micro and small enterprises that were previously excluded from the financial system (FSD Kenya, 2021).

Empirical studies have consistently shown that access to digital credit services enhances business liquidity, operational efficiency, and profitability. Beck et al. (2018) established that fintech-driven lending substantially improves SMEs' productivity by facilitating investment in inventory, equipment, and labour. Muthoni and Muturi (2020) similarly reported that digital loans in Kenya have reduced operational bottlenecks, enabling small businesses to meet short-term obligations and capitalize on emerging market opportunities. These findings align with the propositions of Financial Intermediation Theory, which emphasize that effective credit access enhances resource allocation and supports firm growth.

However, unlike traditional intermediaries, digital lenders operate in a less regulated environment, which presents both opportunities and risks. According to the Alliance for Financial Inclusion (AFI, 2020), the speed and convenience of digital credit have come at the cost of higher interest rates, shorter repayment periods, and limited consumer protection. This deviation raises critical questions about whether digital financial intermediaries fulfil the stabilizing function envisioned by the theory. Kiiru and Omondi (2022) observed that while fintech has broadened access, many SMEs experience repayment difficulties and multiple borrowing across platforms, leading to potential financial distress. Such findings reveal that the cost and quality dimensions of digital credit intermediation require deeper scrutiny, particularly in contexts characterized by weak regulation and low financial literacy.

Other studies have offered a more balanced view. Njoroge and Mutua (2023) found that despite these risks, SMEs using digital credit platforms in Nairobi exhibited better cash flow management, reinvestment capacity, and responsiveness to market shocks. Similarly, Koomson, Villano, and Hadley (2022) demonstrated that mobile-based lending fosters resilience among small enterprises in West Africa by ensuring liquidity continuity during revenue fluctuations.

These studies suggest that the benefits of digital financial intermediation may outweigh its risks, particularly when complemented by appropriate regulatory and financial management practices.

A comparative analysis of global literature highlights that the effects of digital intermediation vary across regions due to contextual differences. In advanced economies, regulatory frameworks and data protection laws enhance trust and mitigate systemic risks (Zhang & Li, 2024). Conversely, in developing contexts such as Kenya, weak enforcement mechanisms, inconsistent consumer protection, and infrastructural limitations complicate the full realization of intermediation benefits. This observation underscores the need to contextualize Financial Intermediation Theory when applying it to digital ecosystems, as its classical assumptions, such as perfect information flows and rational decision-making, do not always hold in informal and resource-constrained settings.

Critics of the theory argue that it tends to idealize intermediary efficiency without adequately accounting for power asymmetries and profit motives that can distort credit allocation (Allen & Santomero, 2001). In digital contexts, algorithms used for credit scoring may inadvertently reinforce bias or exclude certain groups due to limited digital footprints (Mothobi & Grzybowski, 2017). Moreover, the growing commercialization of fintech lending platforms has led to aggressive credit marketing practices that sometimes undermine borrower welfare (Omondi & Wanyoike, 2023). These shortcomings suggest that while the theory remains conceptually sound, its application in fintech environments must incorporate socio-economic and regulatory dimensions.

Despite these limitations, Financial Intermediation Theory remains a vital analytical lens for this study. It helps explain how digital lenders, as new-age financial intermediaries, bridge financing gaps for SMEs in Nairobi by overcoming traditional constraints such as collateral, distance, and bureaucratic delays. The theory also provides a conceptual foundation for

understanding the causal relationship between access to digital credit and financial performance outcomes such as profitability, liquidity, and operational efficiency. Moreover, it aligns with the study's focus on financial management practices as a moderating factor, since effective management determines how SMEs utilize and sustain the benefits of digital credit access.

The evolution of financial intermediation from traditional banking systems to digital platforms demonstrates how technological innovation continues to reshape capital access dynamics. By synthesizing insights from both classical and contemporary perspectives, this theory offers a comprehensive framework for understanding the mechanisms through which digital finance influences SME performance. Its integration into this study provides not only theoretical justification but also an analytical basis for examining how fintech-based credit systems contribute to financial inclusion and sustainable enterprise growth within Nairobi's SME sector.

2.2.3 Resource-Based View (RBV) Theory

The Resource-Based View (RBV) of the firm, introduced by Wernerfelt (1984) and refined by Barney (1991), emphasizes that an organization's sustained competitive advantage arises from its capacity to identify, develop, and deploy valuable, rare, inimitable, and non-substitutable (VRIN) resources. Unlike external or market-based theories such as Porter's Competitive Forces Model, RBV is inward-looking, it focuses on firm-specific assets and capabilities that underpin superior performance. These include tangible resources such as infrastructure and technology, and intangible resources such as skills, knowledge, and organizational culture. The central proposition of RBV is that firms possessing unique combinations of these resources can create and sustain advantages that are difficult for competitors to replicate (Peteraf, 1993).

Within the context of Small and Medium-Sized Enterprises (SMEs), RBV offers a robust framework for understanding how internal capabilities influence financial performance. In Nairobi County, where SMEs operate in resource-constrained and competitive environments, RBV is particularly relevant in explaining performance differences among firms that have adopted digital financial systems. Digital finance tools, such as cloud-based accounting platforms, mobile money integration, digital record-keeping applications, and tax compliance software, represent both tangible and intangible resources that can transform how SMEs manage financial operations (Mwangi & Kimani, 2022). When effectively integrated, these tools strengthen a firm's ability to plan, budget, monitor cash flows, and ensure tax compliance, all of which enhance profitability and sustainability.

However, RBV does not merely emphasize possession of resources; it stresses the strategic utilization and internalization of those resources. Waweru and Njuguna (2023) observed that Kenyan SMEs using digital accounting systems reported fewer transaction errors and faster decision-making cycles compared to firms that adopted similar technologies without investing in staff training or system integration. This supports Barney's (1991) assertion that competitive advantage depends on how resources are combined and managed rather than simply acquired. In essence, digital finance tools become strategic resources only when embedded within sound financial management practices, budgeting, auditing, and performance monitoring, which allow firms to translate technological adoption into measurable financial outcomes.

Similarly, Mutuku and Wanyama (2023) found that SMEs with high digital literacy and formalized financial management structures were more likely to maintain compliance with taxation systems such as iTax and eTIMS, secure credit, and demonstrate consistent revenue growth. These findings align with RBV's premise that intangible assets, skills, experience, and routines, are critical in deriving sustained benefits from tangible tools. In contrast, firms lacking

financial discipline or human capital to manage digital systems effectively may fail to realize performance gains despite technological adoption (Adu et al., 2021).

Comparative international evidence reinforces this logic. For instance, Agyemang and Boateng (2022) reported that Ghanaian SMEs using digital record-keeping systems achieved long-term cost efficiency and improved tax transparency when complemented by structured internal control mechanisms. Conversely, Obeng and Acheampong (2021) noted that some Nigerian SMEs experienced minimal performance improvements after digital adoption due to poor internal data utilization and limited managerial capability. These contrasting findings highlight RBV's strength in explaining performance heterogeneity, digital tools create potential, but only firms with the right complementary resources convert that potential into results.

Moreover, RBV offers a theoretical basis for the moderating role of financial management practices in the digital finance–performance relationship. Budgeting discipline, cash flow monitoring, and internal auditing practices determine whether SMEs can capitalize on the efficiencies offered by digital payment and lending systems. For instance, an SME using digital credit to finance operations but lacking budgeting controls may experience liquidity volatility rather than profitability growth. This interplay between external technology and internal capability illustrates the integrative essence of RBV, performance outcomes emerge from resource configuration, not isolated resource possession (Grant, 2019).

Despite its wide applicability, RBV has faced several criticisms, particularly concerning its conceptual and empirical limitations. Priem and Butler (2001) contend that RBV's VRIN criteria are often tautological and difficult to measure empirically. In fast-changing sectors like digital finance, resources that are “rare” today may become widely available tomorrow, eroding their strategic value. Similarly, Newbert (2007) argues that RBV often underestimates external factors such as regulatory environments, infrastructure, and market turbulence, all of which are

critical determinants of SME success in emerging economies. For instance, Omondi and Wainaina (2023) observed that despite possessing competent financial management systems, some Nairobi-based SMEs suffered performance setbacks due to unstable internet connectivity, erratic tax policy changes, and delayed government reimbursements. These findings indicate that internal resources alone may not fully explain performance differences, external enabling conditions remain significant.

Another limitation is RBV's assumption of rational and deliberate resource accumulation, which may not align with the realities of SMEs in developing economies. Many small firms operate informally, making resource development more opportunistic than strategic (Lerner & Malmendier, 2020). Digital transformation, therefore, is often driven by necessity rather than competitive positioning. In this sense, RBV must be applied flexibly, integrating contextual factors such as financial inclusion policies, digital infrastructure, and institutional support that influence how SMEs build and leverage internal capabilities.

Nevertheless, RBV continues to offer a valuable theoretical foundation for understanding SME competitiveness in a digitalized financial environment. By recognizing digital record-keeping systems, mobile payment solutions, and financial literacy as strategic assets, RBV elucidates why some firms outperform others despite operating within the same external environment. In Nairobi's SME ecosystem, those that effectively internalize digital finance practices, integrating them with budgeting, planning, and compliance routines, tend to exhibit superior financial outcomes. The theory, therefore, justifies the study's focus on financial management practices as a moderating mechanism, bridging the gap between technological adoption and firm performance.

As such, the Resource-Based View provides both explanatory depth and practical insight into how digital finance enhances SME financial performance. It shifts the analytical focus from

mere access to digital tools toward understanding how internal resources, human, organizational, and technological, combine to generate sustainable competitive advantage. While acknowledging its limitations in accounting for external institutional dynamics, RBV remains essential for conceptualizing the internal mechanisms through which SMEs in Nairobi translate digital financial adoption into long-term profitability, operational efficiency, and growth.

2.3 Empirical Review

The empirical review synthesizes findings from previous studies that examined the relationship between digital finance, financial management practices, and the performance of Small and Medium-Sized Enterprises (SMEs). This section identifies existing knowledge, methodological orientations, and contextual variations while highlighting key gaps that justify the present study.

2.3.1 Digital Payment Systems and Financial Performance of SMEs

Digital payment systems have emerged as transformative enablers of financial inclusion and business growth globally, particularly for SMEs. These systems, ranging from mobile money platforms to bank-integrated payment gateways, enable real-time, traceable, and cost-effective transactions that support operational efficiency and profitability. Globally, several studies have established the positive relationship between digital payment adoption and firm performance. Guo and Li (2021), in a study on Chinese SMEs, found that the use of digital payment systems significantly reduced transaction costs and cash-handling errors, resulting in a 15% increase in net operating profit margins. Similarly, Kumar et al. (2019) demonstrated that Indian SMEs utilizing digital wallets and Unified Payment Interface (UPI) platforms experienced improved cash flow cycles, enhanced inventory control, and better customer retention. These outcomes

indicate that digital payments contribute directly to working capital optimization and financial agility.

Böhme and Shiller (2020) conducted a comparative study across Southeast Asia and observed that automated digital payment tracking improved transparency and financial reporting accuracy. SMEs using integrated systems gained improved access to credit and higher tax compliance rates due to accurate financial documentation. However, they also identified disparities in benefits based on firm size, location, and technological capacity, suggesting that digital payment benefits are not uniformly distributed. This observation aligns with Del Vecchio et al. (2021), who noted that digital payment systems tend to amplify existing resource advantages among SMEs with greater technological preparedness and human capital.

At the regional level, Sub-Saharan Africa has witnessed exponential growth in digital finance, particularly mobile money adoption. Adetunji et al. (2021), studying Nigerian SMEs, found that digital payment systems reduced cash leakage by 20%, improved sales reconciliation, and strengthened supplier relationships through timely payments. In Ghana, Asare and Ghartey (2020) reported that SMEs utilizing platforms such as ExpressPay and SlydePay realized a 12% increase in monthly revenues, driven by better customer retention and operational efficiency. Likewise, Adu et al. (2021) observed that in Côte d'Ivoire, digital payment adoption improved financial discipline and record-keeping, enabling SMEs to access additional financial services such as overdrafts and microloans.

Conversely, other regional studies present nuanced findings. Njaramba and Mwakajinga (2022) discovered that although mobile payment systems in Tanzania enhanced convenience, they did not significantly influence profitability among rural SMEs. The study attributed this to erratic internet connectivity, high transaction costs, and customer resistance to non-cash modes

of payment. This underscores that the effectiveness of digital payment systems is context-dependent, hinging on infrastructural readiness, user capability, and institutional support. In Kenya, digital payment platforms such as M-Pesa, Airtel Money, PesaPal, and bank-linked point-of-sale (POS) systems have revolutionized SME operations. Omondi and Odhiambo (2020) found that Nairobi-based SMEs adopting mobile payment systems experienced significant improvements in cash flow stability, record-keeping accuracy, and revenue monitoring, with a 17% increase in sales forecasting accuracy attributed to real-time data availability. Otieno and Mwendu (2021) corroborated these findings, reporting a notable reduction in revenue leakages and human error among SMEs in the retail and hospitality sectors.

Further, Karanja and Kibet (2022) observed that the adoption of digital payment systems among Kenyan SMEs reduced administrative costs by 22%, enabling resource reallocation toward business expansion. However, they cautioned that cybersecurity risks remain a major challenge, particularly among SMEs managing sensitive customer information. Ndung'u (2022) echoed these concerns, identifying poor system reliability, hidden transaction charges, and digital fraud as key deterrents to consistent adoption within Nairobi's informal economy. Similarly, Muriuki and Akech (2021) noted that customer resistance to cashless payments limited the full realization of digital benefits, especially in sectors where cash remains culturally dominant. Importantly, Mwangi and Kimani (2022) found that SMEs that integrated digital payment tools with complementary financial management systems, such as digital accounting, inventory control, and budgeting, achieved significantly higher levels of liquidity and profitability. Firms that adopted payment technologies in isolation realized limited benefits, indicating that integration and internal process alignment are critical success factors.

2.3.2 Digital Lending Services and Financial Performance SMEs

Digital lending services, which primarily entail credit issued via online platforms, mobile applications, and fintech interfaces, are reshaping how SMEs globally access, manage, and utilize working capital. These platforms rely on digital data trails, alternative credit scoring models, and algorithmic decision-making to streamline lending processes and reduce traditional financial bottlenecks. The digitization of credit delivery has been particularly transformative for small firms that historically faced challenges in accessing formal financing due to a lack of collateral, lengthy procedures, and limited credit histories. In developed economies, digital lending has facilitated faster capital access, improved liquidity management, and enhanced overall business continuity. Chen and Manso (2020) found that in the United States, SMEs utilizing fintech lenders such as Kabbage and OnDeck accessed credit three times faster than those using conventional banking systems. This improved cash flow stability enabled firms to manage inventory more efficiently and respond quickly to market shifts. Similarly, Claessens et al. (2018), in a multi-country study spanning over 20 economies, established that fintech-based lending disproportionately benefited underbanked SMEs. They reported a 10–30% rise in investment activity and profitability among firms adopting digital credit. However, they cautioned that rapid and unmonitored access to credit, without commensurate improvements in financial management, could result in rising default rates and debt unsustainability, underscoring the need for internal financial discipline alongside technological adoption.

In Sub-Saharan Africa, digital lending has emerged as an essential financial innovation that bridges the persistent credit access gap for SMEs. Okonkwo and Onuoha (2021), examining Nigerian SMEs, observed a 28% improvement in sales turnover among firms using digital credit providers such as Carbon, Branch, and FairMoney, attributing this growth to the availability of short-term working capital and rapid loan disbursement. Likewise, Agyapong et al. (2020) found

that in Ghana, mobile-based microloans enhanced stock replenishment frequency among micro-retailers, leading to higher revenue growth. However, the study also highlighted significant over-indebtedness risks, as approximately 40% of respondents borrowed concurrently from multiple platforms without adequate financial planning. This finding aligns with Adu and Asare (2022), who emphasized that weak digital financial literacy can undermine the potential benefits of digital credit, especially when borrowers fail to synchronize loan repayment schedules with revenue cycles.

In Uganda, Nabeta and Mwesigwa (2021) reported that although SMEs appreciated the convenience and accessibility of mobile-based loans, high interest rates and short repayment durations discouraged repeated borrowing. These constraints reduced the long-term positive effect of digital lending on business sustainability. Collectively, these regional studies demonstrate that while digital lending expands access to finance, its performance impact is moderated by factors such as cost of credit, repayment flexibility, and borrower capacity to manage debt responsibly.

Kenya presents one of the most dynamic digital lending environments in Africa, characterized by platforms such as M-Shwari, KCB M-Pesa, Tala, Branch, and Fuliza. These services have filled crucial credit gaps by providing unsecured, mobile-based loans to SMEs, enabling them to manage liquidity and meet operational demands. According to FSD Kenya (2021), over 70% of urban SMEs in Kenya have accessed credit through digital platforms, leading to notable improvements in operational continuity, supplier payment cycles, and short-term liquidity. Kariuki and Kinyua (2022) observed that SMEs using digital loans increased their average monthly sales by 18%, primarily due to timely restocking and the ability to address unexpected expenses.

Similarly, Omondi and Wafula (2021) found that access to digital credit reduced stock-out incidents and enhanced customer service continuity, especially in retail and FMCG sectors. However, the authors noted that performance improvements were uneven: SMEs that employed strong financial planning frameworks experienced significant profit growth, while those lacking structured financial practices faced debt accumulation. Wanyama and Mutuku (2022) further reported that 45% of Nairobi-based SMEs engaged in loan stacking, borrowing simultaneously from multiple platforms, resulting in repayment stress, strained liquidity, and reduced creditworthiness.

Complementary findings by Kiiru and Omondi (2022) indicated that despite enhanced access to funds, many SMEs experienced financial distress due to high interest rates (often exceeding 15% monthly), the absence of grace periods, and punitive penalties for late repayments. Their study concluded that without adequate financial literacy, digital credit can exacerbate vulnerability rather than support business growth. Muthoni and Muturi (2020) echoed similar concerns, observing that while digital loans improved liquidity, some SME owners diverted borrowed funds toward personal or non-productive uses, limiting the impact on firm performance.

Conversely, when digital credit is integrated with structured financial management systems, its benefits are significantly magnified. Waweru and Njuguna (2023) found that SMEs combining digital lending with cash flow monitoring, budgeting, and expense tracking tools achieved more stable working capital, higher return on investment, and reduced delinquency rates. This reinforces the argument that digital lending alone does not guarantee improved performance; it must be complemented by sound internal financial practices that enable responsible borrowing and productive use of funds.

The evidence above demonstrates that digital lending services have a transformative potential for SME performance, particularly through improved liquidity, inventory management, sales turnover, and operational resilience. Nonetheless, the benefits are highly contingent upon contextual variables such as interest rates, credit terms, borrower discipline, and financial literacy. The reviewed literature reveals two key gaps: first, a limited empirical focus on how digital lending interacts with firm-level financial management practices; and second, insufficient localized evidence from Nairobi County, where digital credit penetration is high but financial literacy levels and regulatory oversight vary. This study seeks to address these gaps by assessing the extent to which digital lending enhances SME performance when mediated by effective financial management practices under Kenya's evolving digital finance ecosystem.

2.3.3 Digital Record-Keeping and Financial Performance of SMEs

Digital record-keeping has emerged as a crucial element in the financial transformation of Small and Medium-Sized Enterprises (SMEs), offering a structured and efficient approach to managing financial data. It involves the use of digital tools such as accounting software, cloud-based platforms, and mobile applications to record, process, and store financial transactions. By replacing manual bookkeeping with automated processes, SMEs achieve greater accuracy, timeliness, and accessibility of financial information, which enhances decision-making and overall financial performance (Alade & Muriithi, 2020). Effective digital record-keeping improves liquidity management, operational efficiency, and profitability, key dimensions of financial performance that determine business sustainability and competitiveness in a dynamic marketplace.

Globally, studies have consistently shown that digital record-keeping contributes positively to SME performance. Zhang and Wu (2020), in their analysis of Chinese SMEs,

revealed that firms adopting cloud-based accounting systems experienced significant improvements in financial accuracy and profitability, attributed to faster reconciliation processes and reduced incidences of fraud. Similarly, Garcia and Fernandez (2020) found that European SMEs utilizing real-time digital ledgers recorded fewer discrepancies, improved budgeting accuracy, and enhanced tax compliance, which strengthened both managerial oversight and investor confidence. These findings suggest that digital record-keeping not only enhances operational efficiency but also serves as a mechanism for financial transparency and accountability. However, Lee and Kim (2019) cautioned that the benefits of digital systems may not be fully realized without adequate user training, as improper handling can result in data inaccuracies or system malfunctions, thus undermining financial integrity.

In developing economies, digital record-keeping has demonstrated substantial influence on SME financial outcomes. Abor and Quartey (2018) reported that West African SMEs using digital accounting platforms achieved higher profit margins and faster access to credit facilities than those relying on manual records. The researchers attributed this advantage to the credibility and traceability of digital financial statements, which enhance lenders' confidence. Likewise, Agyapong et al. (2020) found that Ghanaian SMEs with digital bookkeeping practices were more likely to secure working capital loans, as digital records provided verifiable evidence of financial performance. Nonetheless, they observed disparities in adoption across enterprise sizes, noting that microenterprises often faced barriers related to system costs and limited digital literacy. These findings underscore the notion that while digital record-keeping can significantly enhance financial performance, its impact depends on the firm's capacity to adopt and sustain the technology effectively.

Evidence from East Africa reinforces the positive link between digital record-keeping and financial outcomes, though contextual challenges persist. Mugisha and Ainomugisha (2022) found that Ugandan SMEs using electronic financial management systems experienced notable growth in revenues and liquidity as a result of timely transaction recording and reduced operational losses. In Tanzania, Ngaruiya and Mwaura (2021) observed that the adoption of digital record-keeping improved cost control and enhanced cash flow forecasting, leading to measurable profitability gains. Despite these successes, both studies highlighted sustainability concerns, including high maintenance costs, limited data security, and infrastructural constraints, which could erode the financial benefits of digitization. These insights point to the importance of integrating technological systems with organizational capacity and supportive institutional environments.

In Kenya, digital record-keeping has gained increasing relevance with the widespread use of tools such as Tally, QuickBooks, Sage, and mobile accounting applications. Mwangi and Kimani (2022) established that Nairobi-based SMEs employing digital systems experienced improved cash flow monitoring, reduced administrative expenses, and enhanced profitability due to accurate expense tracking and streamlined reporting. Similarly, Karanja and Kibet (2022) reported that SMEs which had fully digitized their accounting processes recorded a reduction in financial reporting errors and greater operational efficiency, underscoring the value of digital visibility in performance optimization. However, Odhiambo and Wafula (2021) cautioned that digital record-keeping does not automatically translate into improved financial performance, as the absence of strong internal controls and financial analysis skills can limit its effectiveness. Moreover, Omondi and Wainaina (2023) noted that recurring subscription fees and cybersecurity risks discouraged long-term adoption among microenterprises, particularly in Nairobi's informal

sectors. These findings suggest that digital record-keeping must be supported by financial competence and organizational readiness to yield sustainable results.

A synthesis of existing literature reveals that digital record-keeping enhances SME financial performance through greater efficiency, transparency, and data-driven decision-making. Firms that maintain accurate digital records are better positioned to manage liquidity, control costs, comply with tax regulations, and attract investors or lenders. However, the extent of these benefits is influenced by contextual factors such as digital literacy, system integration, infrastructure quality, and affordability. Tamilmani et al. (2021) argued that the mere adoption of digital technologies does not guarantee improved outcomes; rather, the organizational ability to internalize and utilize these tools determines their impact. This perspective aligns with the Resource-Based View (RBV), which emphasizes that firm-specific capabilities, including financial skills and digital competence, mediate the relationship between technology adoption and performance.

Literature demonstrates that a positive association exists between digital record-keeping and the financial performance of SMEs, though variations exist based on firm characteristics and environmental conditions. The literature highlights that while technology adoption enhances efficiency and financial transparency, its ultimate value depends on the integration of digital systems with internal managerial capacities. This study builds on these insights by examining how digital record-keeping practices influence financial performance among SMEs in Nairobi County, where technological adoption is growing but challenges related to resource constraints, skill gaps, and infrastructural limitations persist.

2.3.4 Digital Taxation, Compliance, and Financial Performance of SMEs

The evolution of digital taxation systems has become a defining feature of modern financial governance, transforming how Small and Medium-Sized Enterprises (SMEs) manage tax obligations, report financial data, and engage with regulatory authorities. Digital taxation refers to the use of technology-based platforms for tax filing, assessment, payment, and monitoring, such as electronic invoicing, e-filing portals, and real-time transaction reporting. These systems aim to enhance tax compliance, transparency, and administrative efficiency by reducing manual processes and increasing data accuracy. According to the Organisation for Economic Co-operation and Development (OECD, 2020), digital tax systems contribute to improved compliance rates and greater revenue collection efficiency, especially among small businesses that previously struggled with complex tax procedures. For SMEs, digital taxation offers potential benefits including reduced compliance costs, minimized human error, and improved cash flow predictability due to timely tax planning and reporting.

Globally, several studies have demonstrated that digital taxation contributes to enhanced financial performance by fostering compliance discipline and operational efficiency. Hasan and Mollah (2021) found that SMEs in Malaysia using electronic tax systems reported lower administrative burdens and higher profitability due to reduced time spent on manual tax preparation and fewer penalties for late filing. Similarly, Patel and Shah (2020), examining Indian SMEs under the Goods and Services Tax Network (GSTN), observed that digital tax filing improved record-keeping accuracy and facilitated better integration between accounting systems and tax records, resulting in greater financial control and reduced audit risks. Moreover, Castro and Oliveira (2021) found that Portuguese SMEs using electronic invoicing experienced stronger financial stability, as digital tax platforms promoted systematic tracking of expenses and revenues, thereby improving internal financial management. However, they cautioned that the

transition to digital taxation requires significant initial investment in technology and skills, which can strain smaller enterprises in the short term.

In emerging markets, the impact of digital taxation is shaped by infrastructural readiness, digital literacy, and enforcement capacity. In Nigeria, Adegbe and Adebayo (2021) reported that the adoption of the Integrated Tax Administration System (ITAS) improved compliance among SMEs by 25%, reducing underreporting and non-filing cases. The study also linked enhanced compliance to better access to public procurement opportunities and reduced corruption, which collectively improved SME performance. However, Ayo and Olatunji (2020) observed that many microenterprises faced challenges adapting to digital tax systems due to inadequate technological skills, unreliable internet connectivity, and high system maintenance costs, which in some cases reduced productivity. In Ghana, Asiedu and Frempong (2022) established that the e-Tax platform significantly enhanced tax filing efficiency and reduced operational costs for SMEs, though technical difficulties and lack of guidance limited sustained use among smaller businesses. These findings collectively highlight that digital taxation enhances financial outcomes primarily when accompanied by adequate technological infrastructure and user support.

Across East Africa, digital tax reforms have been central to revenue modernization efforts. In Rwanda, Uwizeyimana and Habimana (2021) found that the Electronic Billing Machine (EBM) system increased tax compliance levels and enhanced record-keeping accuracy, enabling SMEs to make better financial decisions and avoid punitive fines. Similarly, Mugisha and Nduhura (2022) reported that Uganda's e-Tax system simplified filing procedures and minimized opportunities for tax evasion, improving SME credibility and access to financial services. Nonetheless, the authors emphasized that compliance costs remained relatively high for small enterprises, especially those operating informally. In Tanzania, Mwakalobo and Mgonja

(2022) found that SMEs adopting the digital tax platform TRA-Online improved their operational efficiency and financial discipline; however, limited awareness and inadequate training were significant barriers to full adoption, often leading to partial compliance.

In the Kenyan context, digital taxation has undergone rapid evolution through the Kenya Revenue Authority's (KRA) digital reforms, including the iTax platform, Electronic Tax Register (ETR), and the more recent Electronic Tax Invoice Management System (eTIMS). These systems aim to promote transparency, automate record submission, and reduce tax evasion among SMEs. Waweru and Kamau (2021) found that the implementation of iTax improved compliance levels by simplifying filing and payment processes, which in turn reduced penalty incidences and enhanced cash flow predictability. Similarly, Njoroge and Ndungu (2022) observed that Nairobi-based SMEs using digital tax tools recorded improved financial planning and accountability, as automated tax computations minimized human error and enabled more accurate forecasting. The study also linked compliance discipline with enhanced access to formal credit, since banks viewed compliant SMEs as lower-risk borrowers. However, Otieno and Muthoni (2023) noted that compliance costs, including internet fees, system maintenance, and accounting software subscriptions, remained a significant challenge for micro and small enterprises, often discouraging sustained adherence. The researchers further identified low digital literacy and inconsistent internet connectivity as structural barriers limiting the full financial benefits of digital taxation.

Recent studies have also highlighted cybersecurity and data privacy concerns that may affect SME confidence in digital taxation. Kariuki and Kilonzo (2022) found that apprehension about data misuse and exposure to cyber threats reduced SMEs' willingness to fully utilize e-Tax systems, particularly among informal traders. Nonetheless, they observed that firms that

overcame these barriers and adopted integrated accounting-tax systems achieved measurable improvements in profitability and liquidity through better expense management and reduced tax penalties. This finding aligns with Muturi and Wambugu (2021), who concluded that digital compliance frameworks strengthen financial performance by promoting fiscal discipline, enhancing transparency, and minimizing the risk of non-compliance-related disruptions. However, they also warned that without continuous taxpayer education and simplified user interfaces, the adoption gap between large and small firms may widen, exacerbating inequality in tax compliance outcomes.

2.4 Summary of Literature Gaps and Contribution to Knowledge

The reviewed literature demonstrates that digital finance has emerged as a major driver of business transformation and growth among Small and Medium-Sized Enterprises (SMEs). Various studies have confirmed that digital payment systems, mobile lending, and e-tax platforms enhance operational efficiency, financial control, and compliance (Guo & Li, 2021). Despite this progress, significant theoretical and empirical gaps persist, necessitating further inquiry into how digital finance shapes SME performance, particularly within developing economies such as Kenya.

From a theoretical perspective, previous research has not fully integrated modern adoption and performance theories in explaining the relationship between digital finance and SME outcomes. The Unified Theory of Acceptance and Use of Technology (UTAUT) remains underexplored in African contexts, despite its suitability for understanding SME adoption of structured systems like iTax and eTIMS (Tamilmani et al., 2021). Instead, most studies continue to rely on earlier frameworks such as the Technology Acceptance Model (TAM), which lacks the explanatory depth of UTAUT's constructs, performance expectancy, effort expectancy, social

influence, and facilitating conditions (Venkatesh et al., 2003). Similarly, the Financial Intermediation Theory, while long applied to formal banking systems, has not been adequately adapted to analyze the operations of digital lenders such as Tala, M-Shwari, and Branch, which now dominate SME credit access (Asongu & Odhiambo, 2019). Furthermore, the Resource-Based View (RBV), which links internal firm capabilities to sustained performance, has rarely been applied to examine how digital record-keeping and compliance tools contribute to SME outcomes such as profitability, liquidity, and efficiency (Kariuki & Kinyua, 2022). The current study bridges this theoretical gap by combining these frameworks to explain both external technology adoption and internal capability enhancement, thereby offering a more integrated understanding of SME performance in a digital context.

From an empirical standpoint, existing studies tend to generalize the effects of digital finance without disaggregating them into specific performance dimensions. For example, mobile payments are often associated with efficiency improvements, yet few studies distinguish whether such efficiency translates into profitability, liquidity, or cost reduction (Mutinda & Oloko, 2022). Moreover, much of the literature emphasizes the positive outcomes of digital finance, overlooking emerging evidence of potential downsides such as cybersecurity threats, increased operational costs, and unsustainable borrowing behaviors (Ndung'u, 2022; Kiiru & Omondi, 2022). Therefore, the current study contributes by examining both the enabling and constraining effects of digital finance on SME performance, presenting a balanced and evidence-based perspective.

Another major gap exists in research on digital financial record-keeping and taxation systems. While mobile payments and digital lending have attracted considerable scholarly attention, limited focus has been given to how digital accounting software, POS-integrated

platforms, and e-tax compliance systems influence SME financial outcomes (Njoroge & Wambua, 2023). Government-driven tools such as iTax and eTIMS are transforming business compliance and record management in Kenya, yet their implications for financial forecasting, cost control, and credit access remain underexplored. This study responds to that gap by examining how these tools affect key financial performance indicators such as liquidity, profitability, and compliance efficiency.

Additionally, contextual and methodological limitations characterize much of the existing research. Many studies focus on SMEs in specific urban centers or informal markets, often using small, non-representative samples that restrict generalizability (Wanyama & Mutuku, 2022). Others employ purely descriptive designs, limiting their capacity to test causal or interaction effects between variables. Few have explored mediation or moderation mechanisms that link digital finance tools, financial management practices, and SME performance outcomes. To address this gap, the current study adopts a quantitative, cross-sectional design supported by inferential analysis to establish both direct and moderated relationships among these variables.

The present study contributes to knowledge in four key ways. First, it conceptualizes digital finance as a multidimensional construct encompassing digital payments, digital lending, digital financial record-keeping, and digital taxation, thereby offering a more holistic view than previous one-dimensional approaches. Second, it aligns theoretical foundations with corresponding study variables, applying UTAUT to explain technology adoption, Financial Intermediation Theory to assess access to credit, and RBV to analyse internal financial management capabilities, thus enhancing theoretical coherence and interpretive depth. Third, it addresses contextual gaps by focusing on SMEs in Nairobi County, where digital finance adoption is high but performance outcomes remain inconsistent, producing insights that are both

locally grounded and globally relevant. Finally, it advances methodological rigor by using regression-based modelling to test mediation and moderation effects, generating empirical evidence on how financial management practices influence the digital finance–performance relationship.

2.5 Conceptual Framework

The conceptual framework guiding this study was informed by an extensive review of both theoretical and empirical literature and outlines the hypothesized relationships among digital finance adoption, financial management practices, and the financial performance of Small and Medium-Sized Enterprises (SMEs) in Nairobi County, Kenya. The framework posits that four dimensions of digital finance, digital payment systems, digital lending services, digital financial record-keeping, and digital taxation and compliance, collectively influence the financial performance of SMEs. Additionally, the framework incorporates financial management practices as a mediating variable, emphasizing that the impact of digital finance tools on SME financial outcomes is contingent upon the effectiveness of internal financial management systems.

The dependent variable in this study is financial performance of SMEs, which is evaluated through four key indicators: profitability, liquidity, growth rate, and operational efficiency. Profitability reflects the enterprise's ability to generate consistent earnings for reinvestment and sustainability. Liquidity captures the firm's capacity to meet short-term financial obligations, ensuring continuity of operations. Growth rate denotes the expansion of the enterprise in terms of sales, customer base, or asset accumulation, while operational efficiency measures the optimal use of financial and operational resources to minimize costs and maximize output (Kaplan & Norton, 1996). Together, these indicators provide a comprehensive view of financial performance within the SME sector.

The independent variables, digital payment systems, digital lending, digital financial record-keeping, and digital taxation and compliance, are conceptualized based on established theoretical constructs and empirical findings. Digital payment systems enhance transaction efficiency, reduce handling errors, and improve cash flow predictability (Guo & Li, 2021). Digital lending services provide SMEs with faster, collateral-free access to credit, enabling timely financing of working capital and investment needs (Asongu & Odhiambo, 2019). Digital financial record-keeping tools, such as accounting software and cloud-based systems, improve financial transparency, support budgeting, and facilitate more accurate reporting (Mwangi & Kimani, 2022). Similarly, digital taxation platforms such as iTax and eTIMS simplify compliance procedures, reduce administrative burdens, and enhance financial discipline (Omondi & Ndungu, 2022).

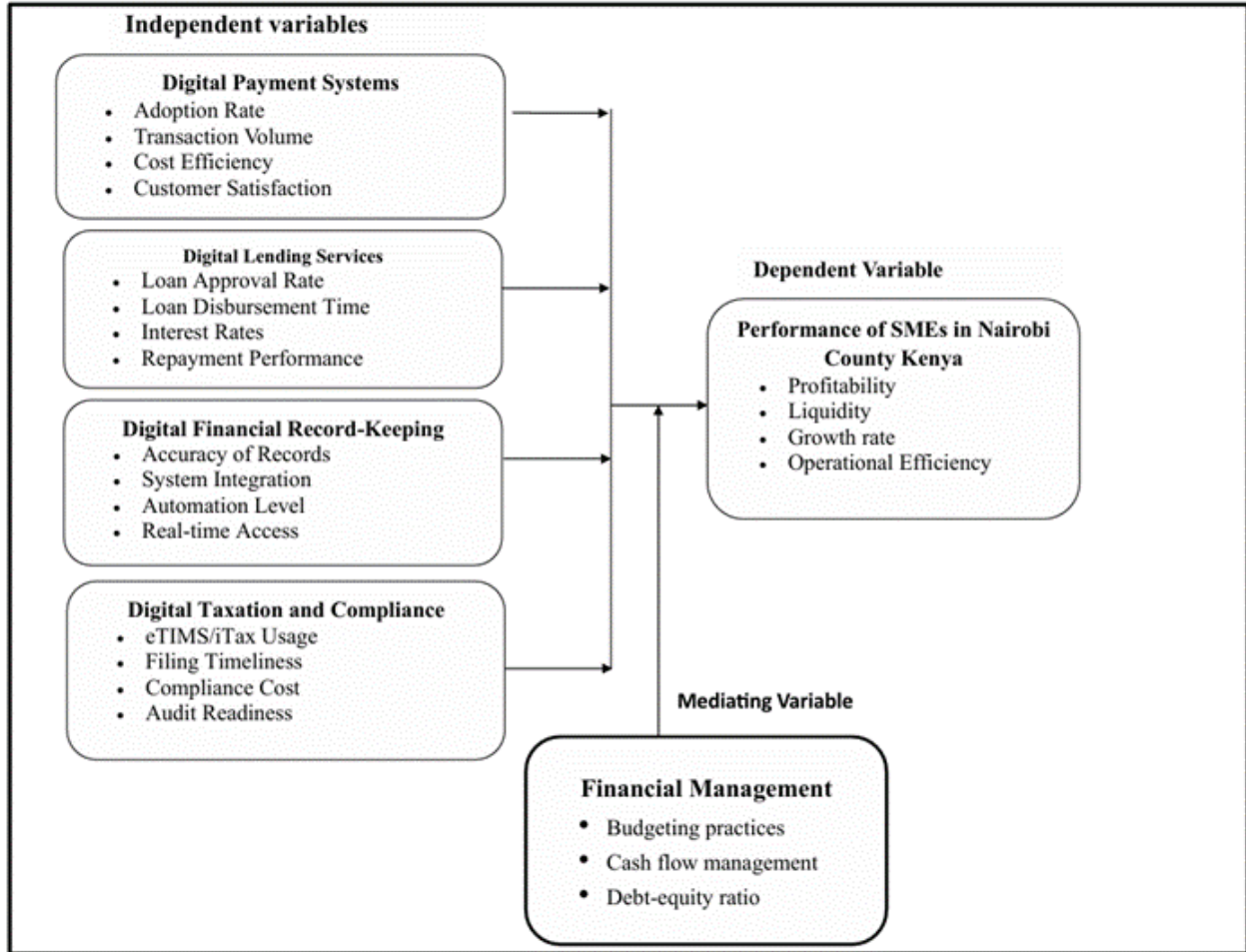
Financial management practices are introduced as a mediating variable, highlighting the importance of internal financial capabilities in strengthening the relationship between digital finance adoption and financial performance. These practices, budgeting, cash flow monitoring, debt management, and financial analysis, enable SMEs to strategically allocate resources, control costs, and manage financial risks. According to the Resource-Based View (RBV) (Barney, 1991), these internal capabilities represent strategic assets that help firms derive greater value from external resources, such as digital financial tools. SMEs that adopt digital finance innovations without integrating them into structured financial management processes may fail to realize performance improvements, while those that embed these tools within sound management practices are likely to experience enhanced profitability, liquidity, and growth.

This conceptual framework is anchored on three interrelated theories. The Unified Theory of Acceptance and Use of Technology (UTAUT) explains the behavioral factors

influencing the adoption of digital financial tools among SMEs, particularly through constructs such as performance expectancy, effort expectancy, social influence, and facilitating conditions (Venkatesh et al., 2003). The Financial Intermediation Theory underscores the role of digital lending platforms in bridging the financing gap by offering alternative credit channels that substitute or complement traditional banks (Diamond & Dybvig, 1983). Finally, the Resource-Based View (RBV) emphasizes that internal organizational capabilities, such as financial management, mediate the extent to which technology and financial resources translate into superior firm performance (Barney, 1991). Together, these theories provide a multidimensional lens through which to understand how digital finance adoption and internal management practices interact to influence financial outcomes among SMEs.

The conceptual framework demonstrated that both a direct and mediated relationship between digital finance and the financial performance of SMEs. While digital finance tools independently contribute to improved financial outcomes through enhanced efficiency and access to capital, their effect is significantly amplified when SMEs possess strong financial management capabilities. This interaction is particularly relevant in Nairobi County, where SMEs operate within an increasingly digitized financial ecosystem but often face challenges in financial planning and control (Ngugi & Bwisa, 2013). By examining how digital finance and financial management practices jointly affect financial performance, this study provides a comprehensive model that contributes to policy formulation, academic discourse, and practical interventions aimed at enhancing SME financial sustainability in Kenya's digital economy.

FIGURE 1
Conceptual Framework



Source: Researchers' own conceptualization 2025

2.6 Operationalization of Variables

Operationalization refers to the process of defining abstract concepts into measurable and observable indicators that can be subjected to empirical testing (Kothari, 2014). In this study, the primary objective was to determine the effect of digital finance and financial management practices on the financial performance of Small and Medium-Sized Enterprises (SMEs) in Nairobi County, Kenya. The key variables comprised four dimensions of digital finance, digital

payment systems, digital lending services, digital financial record-keeping, and digital taxation and compliance, as the independent variables, financial management practices as the mediating variable, and financial performance of SMEs as the dependent variable. Each construct was translated into measurable indicators to ensure validity, reliability, and alignment with the study objectives (Saunders et al., 2019).

Digital payment systems were operationalized using indicators such as adoption rate, transaction volume, cost efficiency, and customer satisfaction. Adoption rate measured the proportion of SMEs that had integrated digital payment solutions, while transaction volume captured the value of business transactions conducted through digital platforms. Cost efficiency was assessed based on the reduction in transaction costs before and after digital payment adoption, and customer satisfaction was evaluated through Likert-scale responses reflecting perceived convenience, reliability, and service speed (Ozili, 2018).

Digital lending services were measured using access to credit, loan disbursement time, interest rate affordability, and repayment performance. Access to credit captured the proportion of SMEs obtaining financing through digital lenders, while disbursement time reflected the average period between loan application and fund disbursement. Interest rate affordability was measured through perceptions of SMEs on the cost of borrowing using a five-point Likert scale, and repayment performance was expressed as the percentage of loans repaid within agreed timelines (FSD Kenya, 2019).

Digital financial record-keeping was operationalized through indicators including accuracy of records, system integration, automation level, and real-time access. Accuracy of records measured the degree of error reduction in financial statements, system integration

captured whether SMEs used synchronized systems such as POS or accounting software, automation level indicated the percentage of financial tasks handled automatically, and real-time access referred to the timeliness of financial data availability for decision-making (Mwangi & Kimani, 2022; Waweru & Njuguna, 2023).

Digital taxation and compliance were assessed through four indicators: use of digital tax platforms such as iTax or eTIMS, filing timeliness, compliance cost, and audit readiness. Platform usage measured the proportion of SMEs utilizing online tax systems; filing timeliness indicated whether returns were submitted before statutory deadlines; compliance cost was expressed as a percentage of revenue spent on tax-related obligations; and audit readiness reflected the perceived preparedness of SMEs to undergo a tax audit successfully (Omondi & Ndungu, 2022; KRA, 2023).

Financial management practices, serving as the mediating variable, were evaluated through budgeting practices, cash flow management, debt management, and financial reporting. Budgeting practices were measured by the existence and use of formal budgets, cash flow management by the frequency of monitoring inflows and outflows, debt management through the debt-to-equity ratio, and financial reporting by the regularity and comprehensiveness of financial statements (Atrill & McLaney, 2018).

Finally, the financial performance of SMEs, the dependent variable, was measured using four indicators: profitability, liquidity, growth rate, and operational efficiency. Profitability was represented by the net profit margin, liquidity by the current ratio, growth rate by the annual increase in sales or revenue, and operational efficiency by the ratio of total expenses to revenue

(Pandey, 2020). These indicators were selected for their suitability in reflecting the overall financial health and sustainability of SMEs.

By defining and quantifying each construct clearly, this study ensured that all variables were measured consistently with the conceptual framework and that the resulting data could be effectively analysed to establish the relationships between digital finance, financial management practices, and SME financial performance (Sekaran & Bougie, 2020).

TABLE 1
Operationalization of Variables

Variable	Type	Indicators	Measurement	Scale of Measurement	Source
Digital Payment Systems	Independent Variable	- Adoption Rate	- % of SMEs using digital payments	Nominal	Beck et al. (2018); Ozili (2018)
		- Transaction Volume	- Value of digital transactions	Ratio	
		- Cost Efficiency	- % reduction in transaction costs	Ratio	
		- Customer Satisfaction	- Likert rating on satisfaction	Ordinal	
Digital Lending Services	Independent Variable	- Access to Credit	- Number of SMEs accessing digital loans	Nominal Ratio	FSD Kenya (2019);

Variable	Type	Indicators	Measurement	Scale of Measurement	Source
Digital Financial Record-Keeping	Independent Variable	Disbursement Time	- Average disbursement time (days)	Ordinal Ratio	McKee et al. (2018)
		Affordability	- Likert rating on Repayment affordability		
		Performance	- % of loans repaid on time		
		Records	- Likert rating on Accuracy of accuracy		
		System	- Type of integrated systems used	Ordinal	Mwangi & Kimani (2022);
		Automation	- % of automated tasks	Ratio	Waweru & Njuguna (2023)
		Real-Time Access	- Frequency of data updates	Ordinal	
		Use of iTax/eTIMS	- % of SMEs using digital tax filing systems	Nominal	Omondi & Ndungu (2022);
		Timeliness	- Timing of tax returns	Ordinal	KRA (2023)
		Compliance	- Compliance returns		

Variable	Type	Indicators	Measurement	Scale of Measurement	Source	
Financial Management Practices	Mediating Variable	Cost	- % of revenue		Brigham & Ehrhardt (2017); Atrill & McLaney (2018)	
		- Audit spent on tax				
		Readiness	compliance			
			- Likert rating on audit preparedness			
		- Budgeting Practices	- Existence of formal budget (Yes/No)	Nominal		
		- Cash Flow Management	- Monitoring frequency	Ordinal		
		- Debt Management	- Debt-to-equity ratio	Ratio		
		- Financial Reporting	- Debt-to-equity ratio	Ordinal		
			- Frequency of reporting			
			- Net profit			
Financial Performance of SMEs	Dependent Variable	- Profitability	margin (%)		Gitman et al. (2018); Ross et al. (2019); Pandey (2020)	
		- Liquidity				
		- Current ratio		Ratio		
		- Growth Rate	- Annual revenue			
		- Operational Efficiency	growth (%)			
		-				

Variable	Type	Indicators	Measurement	Scale of Measurement	Source
			Expense-to-revenue ratio		

Source: Researcher (2025)

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlines the research methodology adopted to examine the impact of digital finance and financial management on the performance of Small and Medium-Sized Enterprises (SMEs) in Nairobi County, Kenya. It details the research design, target population, sampling frame, sample size determination, sampling procedure, and methods of data collection. The chapter further discusses the approach used for data analysis, including the diagnostic tests performed on the collected data to ensure accuracy and reliability. Additionally, it elaborates on the validity and reliability of the research instruments, ethical considerations observed during the study, and the procedures undertaken for data interpretation.

3.2 Research Design

This study employed a descriptive research design to examine the impact of digital finance and financial management on the performance of SMEs in Nairobi County. Descriptive research is effective in exploring relationships and patterns within specific contexts, allowing for an in-depth investigation into how digital payment systems, digital record-keeping, and digital lending influence key performance indicators such as profitability, liquidity, and solvency (Sekaran & Bougie, 2019).

3.3 Target Population

The target population for this study comprised all registered Small and Medium-Sized Enterprises (SMEs) operating within Nairobi County across various sectors, including manufacturing, services, wholesale, retail, and technology. According to the Kenya National

Bureau of Statistics (KNBS, 2016) Micro, Small and Medium Establishments (MSME) Survey, there were approximately 7.4 million MSMEs in Kenya, of which an estimated 5% (about 370,000 enterprises) were located in Nairobi County. The Nairobi City County Business Registry (2024) further indicates that over 340,000 SMEs are currently registered and active within the county across different sectors. This figure was therefore adopted as the target population base for the study. The focus was on SMEs that have integrated digital finance tools such as digital record-keeping, digital payment systems, and digital lending platforms into their operations. The diversity of SMEs within this population provided a suitable foundation for assessing the influence of digital finance and financial management practices on their financial performance.

3.4 Sampling

The unit of observation in this study was the owner or manager of the SME, as they are directly involved in the day-to-day operations and are best positioned to provide information on digital finance adoption and financial performance. The unit of analysis was the Small and Medium-Sized Enterprise (SME) itself. The study aimed to analyse how the use of digital finance and financial management practices influenced the performance of SMEs as business entities.

3.4.1 Sampling Frame

The sampling frame for this study consisted of registered SMEs in Nairobi County. The Nairobi City County Business Register (2022) categorizes SMEs into several industries:

- i. Manufacturing
- ii. Services
- iii. Wholesale
- iv. Retail

v. Technology

These categories served as the basis for determining the sampling frame. To ensure a representative sample, SMEs from each of these industries were included in the study, ensuring a balanced reflection of the diverse sectors present in Nairobi's economy.

3.4.2 Sample Size

The sample size was determined using Yamane's (1967) formula, which provides a simplified method of calculating a statistically valid sample when the population size is known. The formula was selected since it assumed a fixed confidence level, simple random sampling, and a known population size, in which this study relied on a KNBS census and Nairobi City County Business Registry records (2024). Moreover, it assumes maximum variability at $p = 0.5$, which provides the most conservative and representative sample size. The choice of a 95% confidence level and a 5% margin of error ensures a balance between statistical reliability and resource feasibility (Saunders, Lewis, & Thornhill, 2019). Therefore, this formula was relevant for determining an appropriate sample size to generalize findings across SMEs in Nairobi County.

$$n = \frac{N}{1+N(e)^2}$$

Where:

- n = sample size
- N = total population (340,000 SMEs)
- e = margin of error (0.05)

$$n = \frac{340,000}{1+340,000(0.05)^2} = 399.5$$

Using this formula, the sample size was calculated to be approximately 400 SMEs.

3.4.3 Sample Distribution

The sample of 400 SMEs was distributed across the various sectors in Nairobi County, with proportions based on the number of SMEs in each industry. The following table illustrates the distribution:

TABLE 2
Sample Distribution Across Sectors

Industry	Number of SMEs in Nairobi	Proportion (%)	Sample Size
Manufacturing	51,000	15%	60
Services	119,000	35%	140
Retail	125,800	37%	148
Wholesale	27,200	8%	32
Technology	17,000	5%	20
Total	340,000	100%	400

Source: Nairobi County Business Register (2022); Researcher (2025)

3.4.4 Sampling Procedure

A stratified random sampling technique was employed to ensure that each of the major SME sectors within Nairobi County was proportionally represented. The five strata were manufacturing, services, wholesale, retail, and technology (Nairobi City County Business Register, 2024). Within each stratum, SMEs were randomly selected to minimize selection bias

and enhance representativeness. Stratified sampling was appropriate because it captures sectoral diversity while maintaining proportionality across the strata (Kothari, 2014). The sampling units were SME owners or managers, as they possess first-hand knowledge of digital finance usage and financial performance indicators. This approach also reduced the risk of sampling error and increased the reliability of findings.

3.5 Research Instruments

Both primary and secondary data were utilized in this study. Primary data was collected using a structured questionnaire designed to capture information on the adoption of digital finance tools, namely digital record-keeping, digital payments, and digital lending, and their influence on financial performance indicators such as profitability, liquidity, and solvency. Secondary data was sourced from SMEs audited financial statements, business registration records, and sectoral performance reports from Nairobi County and KNBS. The inclusion of secondary data enhanced objectivity and validity by supplementing respondents' perceptions with measurable performance metrics (Mugenda & Mugenda, 2019).

3.5.1 Reliability

To ensure the reliability of the questionnaire, the test-retest method was used with a subset of the pilot group. Respondents completed the questionnaire twice, with a two-week interval between administrations. The consistency of the results was tested using Cronbach's alpha. A value of 0.7 or higher was considered acceptable for the reliability of the questionnaire.

3.5.2 Validity

The study ensured the validity of the research instruments by employing face validity, content validity, and construct validity. Face validity was established by having experts in digital finance

and SME operations review the questionnaire to assess its clarity, relevance, and appropriateness for capturing key aspects of digital finance adoption and SME performance. Content validity was ensured by aligning the questionnaire items with the study's objectives, ensuring that all key concepts of digital payment systems, digital record-keeping, digital lending, and SME performance indicators were comprehensively covered.

Additionally, construct validity was reinforced through factor analysis, which confirmed whether the selected performance indicators, such as profitability, liquidity, and solvency, accurately measure financial performance. This statistical technique helped identify underlying relationships among variables and ensure that the constructs used in the study truly reflect the theoretical concepts they are intended to measure. Furthermore, a pilot study was conducted to test the research instrument's reliability and validity before full-scale data collection, allowing for refinements based on preliminary findings.

3.5.3 Diagnostic Tests

Ensuring the accuracy and validity of statistical analysis is crucial in empirical research. According to Baltagi (2003), it is necessary to perform diagnostic tests before determining the appropriateness of a model. In this study, tests for multicollinearity, normality, heteroscedasticity, and linearity was conducted to evaluate the suitability of the regression model.

3.5.3.1 Multicollinearity

For this study, it is important to ensure that the independent variables, digital payment, digital record-keeping, digital lending, and financial management, do not show high correlations with each other. Daoud (2017) suggests that independent variables should be uncorrelated. Field (2013) further explains that when independent variables are correlated, the standard errors of the

regression coefficients increase, which can lead to misleading results, such as incorrectly deeming a variable insignificant when it is statistically significant (Brooks, 2014). Zach (2020) emphasizes that multicollinearity can be assessed using the variance inflation factor (VIF). Hair et al. (2013) suggest that a VIF above 10 indicates the presence of multicollinearity. The decision rule is that if the VIF exceeds 10, the null hypothesis is rejected, confirming the existence of multicollinearity.

3.5.3.2 Normality Test

Testing for normality in the data distribution is essential to ensure the validity of parametric statistical tests used in this study. Brooks (2008) states that for hypothesis testing on variables, the model must exhibit a normal distribution. In this study, the Shapiro-Wilk test, as outlined by Field (2013), was employed to evaluate normality, specifically checking for deviations in the data distribution. The null hypothesis assumed that the sample follows a normal distribution. If the p-value is greater than 0.05, the null hypothesis is not rejected, indicating that the distribution is normal.

3.5.3.3 Test for Heteroscedasticity

Heteroscedasticity refers to a situation where the error term in regression models does not remain constant across different values of the explanatory variables (Uyanto, 2022). To assess whether the variance is constant, the Breusch-Pagan test for heteroscedasticity was used (Poi & Wiggins, 2001). This test checks if the residuals from the regression model exhibit homoscedasticity (Cooper & Schindler, 2008). The assumption is that the error term remains constant for all independent variables. According to Warner (2008), if the p-value is less than 0.05, the null hypothesis is rejected, indicating the presence of heteroscedasticity and a violation of the homoscedasticity assumption.

3.5.3.4 Linearity Test

Testing for linearity is vital to confirm the relationship between the independent and dependent variables in the regression model. Field (2013) recommends that linearity can be verified by examining residual plots to ensure there are no systematic patterns. In addition, the Ramsey RESET test was applied to check whether the model is correctly specified as linear (Brooks, 2008). If the test reveals non-linearity, model adjustments, such as incorporating polynomial terms or transforming variables, may be necessary (Wooldridge, 2012). These steps ensured that the assumptions of a linear regression model are met, minimizing the risk of biased results.

The following model specification was applied in the proposed study:

$$y = a + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + b_5x_5 + e$$

Where,

y = Financial Performance of SMEs

x₁ = elements of digital Payments

x₂ = elements of digital record-keeping

x₃ = elements of digital lending

x₄ = elements of digital taxation

x₅ = elements of financial management practices (mediator)

ε = error label.

a = the intercept or constant

b₁,..... b₄ = the coefficient of the independent variables

To test for mediation, the Baron and Kenny (1986) approach was used, supported by bootstrapping techniques as recommended by Hayes (2018). The indirect effect of digital finance

on financial performance through financial management was tested using a 5,000-sample bootstrap confidence interval. The regression model and mediation procedure were selected for their ability to quantify both direct and indirect relationships, aligning with prior empirical studies (Preacher & Hayes, 2008).

This robust analytical approach enhanced the validity of the findings and provided comprehensive insights into the role of digital finance and financial management in influencing the financial performance of SMEs.

3.6 Data Collection Procedures

Data was collected through both physical distribution and electronic means. Questionnaires were delivered to SME owners and managers, with instructions provided to ensure clarity. Follow-up reminders were used to ensure a high response rate. Confidentiality was assured, and responses were anonymized for participants' privacy. Research assistants were trained to address any queries during data collection.

3.7 Data Processing and Analysis

After completing the data collection, the responses were coded and analyzed using the Statistical Package for the Social Sciences (SPSS). Descriptive statistics, such as frequencies, means, and standard deviations, were applied to summarize the data and offer insights into the connection between the adoption of digital finance and the performance of SMEs. This analysis helped identify patterns, trends, and distributions within the dataset. Furthermore, tables were used to visually present the results, making them clearer and easier to interpret (Sekaran & Bougie, 2019).

Inferential statistics were employed to examine the strength and significance of relationships between digital finance tools such as digital payment systems, digital record-keeping, and digital lending and key SME performance indicators, including profitability, liquidity, and solvency. Correlation analysis assessed the degree of association between variables, while multiple regression analysis determined the impact of digital finance adoption on SME performance, controlling for other influencing factors (Field, 2018).

To ensure the accuracy and suitability of the data for regression analysis, several diagnostic tests were conducted. Normality tests were performed using the Shapiro-Wilk test and the Kolmogorov-Smirnov test to check whether the data followed a normal distribution, ensuring the appropriateness of parametric statistical methods (Gujarati & Porter, 2020). Multicollinearity tests were conducted using the Variance Inflation Factor (VIF) and tolerance values to assess whether independent variables are highly correlated, which could distort regression estimates. A VIF value greater than 10 indicated a severe multicollinearity problem. Heteroscedasticity tests were carried out using the Breusch-Pagan and White tests to detect whether the variability of errors is constant across observations, ensuring reliable standard errors and robust conclusions (Wooldridge, 2019).

3.8 Ethical Considerations

The study followed recognized ethical research guidelines to ensure the integrity of the process and protect the participants involved. Before data collection, ethical approval was sought from the Board of Postgraduate Studies at KCA University and NACOSTI. All participants were thoroughly informed about the study's objectives, procedures, and any potential risks, with their involvement being completely voluntary. They were also assured that they could withdraw from the study at any time without any repercussions. To maintain confidentiality, all personal

information was anonymized and securely stored, accessible only to the research team. Research assistants underwent training on ethical practices to ensure adherence to these standards. The data gathered was used exclusively for academic purposes and would not be shared with unauthorized individuals, safeguarding the privacy and rights of all participants.

CHAPTER FOUR

FINDINGS AND DISCUSSION

4.1 Introduction

This chapter presents the analysis and interpretation of data on the influence of digital finance and financial management on the performance of SMEs in Nairobi County. The analysis was guided by the study objectives, which focused on the effects of digital payment systems, digital lending, digital record-keeping, and digital taxation on SME performance, as well as the mediating role of financial management practices. Data were analysed using descriptive and inferential statistics to draw meaningful conclusions in line with the research objectives.

4.2 Response Rate

The study targeted a total of 400 small and medium-sized enterprises (SMEs) within Nairobi County. Out of these, 371 questionnaires were correctly filled and returned, while 29 questionnaires were either incomplete or not returned. This represents a 92.75% response rate, which is considered excellent and adequate for data analysis. According to Mugenda and Mugenda (2019), a response rate of 70% or higher is considered acceptable in social science research for generating reliable and valid results. The achievement of the high response was due to the use of both physical and digital questionnaire administration, timely follow-ups, and assurances of confidentiality and anonymity to the respondents. The strong participation reflects the willingness of SME owners and managers to contribute to academic research aimed at improving business performance.

TABLE 3
Response Rate

Category	Number of Questionnaires	Percentage (%)
Questionnaires Distributed	400	100.0
Questionnaires Returned	371	92.75
Questionnaires Not Returned	29	7.25
Valid for Analysis	371	92.75

Source: Field Data (2025)

The results in Table 4.1 show that a total of 371 valid responses were received, representing the majority of the sampled SMEs. This high response rate enhanced the reliability of the findings and minimized non-response bias, enabling meaningful statistical analysis and the generalization of results to the target population.

4.3 Demographic Characteristics of Respondents

This section presents the demographic information of the respondents who participated in the study. The characteristics analyzed include gender, age bracket, education level, business sector, and firm size. Understanding these characteristics provides context for interpreting the results and assessing how respondent profiles may influence the adoption and use of digital finance among SMEs.

4.3.1 Gender of Respondents

The study sought to determine the gender distribution among SME owners and managers in Nairobi County. The findings in Table 4.2 indicate that 196 respondents (52.8%) were male,

while 175 respondents (47.2%) were female. This shows that both genders actively participate in SME operations within Nairobi, with a slight dominance of male respondents.

TABLE 4
Gender of Respondents

Gender	Frequency	Percentage (%)
Male	196	52.8
Female	175	47.2
Total	371	100.0

Source: Field Data (2025)

4.3.2 Age of Respondents

The respondents were grouped into four age brackets. The results presented in Table 4.3 show that the majority of respondents, 149 (40.2%), were aged between 31 and 40 years, followed by 98 (26.4%) aged between 20 and 30 years. Those aged 41–50 years accounted for 86 (23.2%), while respondents aged above 50 years represented 38 (10.2%). This indicates that most SME operators are youthful and within the economically active age group, which may facilitate technology adoption.

TABLE 5
Age of Respondents

Age Bracket (Years)	Frequency	Percentage (%)
20–30	98	26.4
31–40	149	40.2

Age Bracket (Years)	Frequency	Percentage (%)
41–50	86	23.2
51 and Above	38	10.2
Total	371	100.0

Source: Field Data (2025)

4.3.3 Education Level of Respondents

Education level is an important factor influencing digital finance adoption. As shown in Table 4.4, the majority of respondents, 162 (43.7%), held a bachelor’s degree, followed by 94 (25.3%) with a diploma, 74 (19.9%) with a master’s degree, and 19 (5.1%) with a certificate. A small proportion, 9 (2.4%), possessed a PhD, while 13 (3.5%) had other professional qualifications. This demonstrates that most SME owners and managers in Nairobi are well-educated, enhancing their capacity to adopt and utilize digital financial technologies.

TABLE 6
Education Level of Respondents

Education Level	Frequency	Percentage (%)
Certificate	19	5.1
Diploma	94	25.3
Degree	162	43.7
Master’s	74	19.9
PhD	9	2.4
Others	13	3.5

Education Level	Frequency	Percentage (%)
Total	371	100.0

Source: Field Data (2025)

4.3.4 Sector of Business

The study categorized SMEs into five main sectors. As shown in Table 4.5, the services sector accounted for the largest share of respondents (130; 35.0%), followed by consumable wholesale and retail (104; 28.0%), manufacturing (58; 15.6%), technology (46; 12.4%), and non-consumable wholesale and retail (33; 8.9%). These results illustrate that service-oriented and retail businesses dominate the SME landscape in Nairobi County.

TABLE 7
Sector of Business

Sector	Frequency	Percentage (%)
Manufacturing	58	15.6
Services	130	35.0
Consumable Wholesale and Retail	104	28.0
Non-Consumable Wholesale and Retail	33	8.9
Technology	46	12.4
Total	371	100.0

Source: Field Data (2025)

4.3.5 Firm Size

The study measured firm size by the number of employees. Table 4.6 shows that 142 firms (38.3%) employed between 1–10 employees, 128 firms (34.5%) had 11–30 employees, 72 firms

(19.4%) employed 31–50 employees, while 29 firms (7.8%) had more than 50 employees. The findings suggest that most enterprises in the study were small in size, consistent with the SME classification criteria by the Kenya National Bureau of Statistics (KNBS).

TABLE 8

Firm Size

Number of Employees	Frequency	Percentage (%)
1–10	142	38.3
11–30	128	34.5
31–50	72	19.4
Above 50	29	7.8
Total	371	100.0

Source: Field Data (2025)

4.3.5 Summary of Demographic Profile

The demographic results show that the respondents were diverse in terms of gender, age, and education level, with most operating in the services and retail sectors. The findings depict a youthful and educated SME population that is well-positioned to adopt digital financial technologies to enhance performance.

4.4 Reliability, Validity, and Diagnostic Tests

Before conducting inferential analysis, several tests were carried out to ensure that the data collected and the instruments used were both reliable and valid. Additionally, diagnostic tests were conducted to confirm that the assumptions of regression analysis were satisfied.

4.4.1 Reliability Analysis

Reliability was assessed using the internal consistency method based on Cronbach's alpha coefficient. According to Kothari (2014), a Cronbach's alpha value of 0.7 or higher indicates an acceptable level of reliability. The results summarized in Table 4.1 show that all constructs exceeded this threshold, demonstrating satisfactory reliability.

TABLE 9
Reliability Results

Variable	Number of Items	Cronbach's Alpha	Interpretation
Digital Payment Systems	6	0.812	Reliable
Digital Record-Keeping	5	0.786	Reliable
Digital Lending	4	0.798	Reliable
Digital Taxation	4	0.774	Reliable
Financial Management Practices	7	0.825	Reliable
SME Performance	5	0.804	Reliable

Source: Research Data (2025)

All Cronbach's alpha values ranged between 0.774 and 0.825, indicating that the items within each construct consistently measured the same underlying dimension. This confirms that the questionnaire items were reliable for further statistical analysis.

4.4.2 Validity Tests

Validity of the instrument was established through face, content, and construct validity. Face validity was ensured by submitting the questionnaire to academic and industry experts in digital finance and SME management for review. Their expert feedback informed refinements that enhanced the clarity, precision, and contextual relevance of the questionnaire items. Content validity was achieved by aligning all questions with the specific objectives of the study to ensure comprehensive coverage of the key variables, including digital payments, digital lending, record-keeping, taxation, and SME performance. Construct validity was further assessed through exploratory factor analysis (EFA), where all factor loadings exceeded the recommended threshold of 0.6, indicating strong correlations between the observed variables and their underlying constructs. According to Hair et al. (2013), factor loadings above this level confirm that each item accurately represents the theoretical concept it was intended to measure, thereby affirming the robustness and validity of the study instrument.

4.4.3 Diagnostic Tests

To ensure robustness of regression analysis, several diagnostic tests were performed, including tests for multicollinearity, normality, heteroscedasticity, and linearity. These tests confirmed that the model satisfied key statistical assumptions.

4.4.3.1 Multicollinearity

Multicollinearity among independent variables was assessed using the Variance Inflation Factor (VIF). As shown in Table 4.8, all VIF values were below 10, indicating the absence of multicollinearity (Daoud, 2017).

TABLE 10
Multicollinearity Test Results

Variable	Tolerance	VIF	Decision
Digital Payments	0.712	1.404	No multicollinearity
Digital Lending	0.685	1.460	No multicollinearity
Record-Keeping	0.702	1.425	No multicollinearity
Digital Taxation	0.729	1.371	No multicollinearity
Financial Management	0.667	1.499	No multicollinearity

Source: Research Data (2025)

4.4.3.2 Normality Test

Normality of residuals was tested using the Shapiro-Wilk test. The p-values for all variables were greater than 0.05, indicating that the data were normally distributed (Field, 2013). Visual inspection of the normal probability plots (P-P plots) also confirmed approximate normality of residuals.

4.4.3.3 Heteroscedasticity Test

The Breusch–Pagan test was used to check for heteroscedasticity. The test results produced p-values greater than 0.05, confirming that the null hypothesis of homoscedasticity could not be rejected. Therefore, the residual variance was constant across observations, satisfying the assumption of equal variance (Poi & Wiggins, 2001).

4.4.3.4 Linearity Test

Linearity was tested using the Ramsey RESET test. The F-statistic was not significant ($p > 0.05$), confirming that the regression model was appropriately specified as linear (Wooldridge, 2012). Scatterplots of standardized predicted values versus residuals further supported the linearity assumption.

4.4.4 Model Specification

The multiple regression model adopted in this study was specified as follows:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + e$$

Where:

Y = SME Performance

X1 = Digital Payments

X2 = Digital Lending

X3 = Record-Keeping

X4 = Digital Taxation

e = Error term

To test mediation, the study used the Baron and Kenny (1986) approach, supplemented by bootstrapping (5,000 samples) as recommended by Hayes (2018). This allowed the estimation of both direct and indirect effects of digital finance on SME performance through financial management practices, in line with Preacher and Hayes (2008).

4.5 Descriptive Statistics of Study Variables

This section presents the descriptive statistics of the key variables examined in the study, namely digital payment systems, digital financial record-keeping, digital lending, digital taxation,

financial management practices, and the financial performance of SMEs. Each construct was measured on a five-point Likert scale ranging from 1 = Very Low Extent to 5 = Very Great Extent. The results, summarized in Table 4.9, provide insights into the level of digital finance adoption and managerial practices among small and medium-sized enterprises in Nairobi County.

TABLE 11
Descriptive Statistics of Study Variables

Variable	N	Mean	Std. Deviation	Interpretation
Digital Payment Systems	371	3.55	0.47	Moderate to high extent
Digital Record-Keeping	371	3.04	0.51	Moderate extent
Digital Lending	371	3.14	0.55	Moderate extent
Digital Taxation	371	2.98	0.55	Moderate to low extent
Financial Management Practices	371	2.98	0.49	Moderate to low extent
SME Financial Performance	371	3.13	0.50	Moderate extent

Source: Field Data (2025)

The results indicate that digital payment systems had the highest mean score ($M = 3.55$, $SD = 0.47$), showing that most SMEs have moderately to highly integrated mobile and online payment methods such as M-Pesa, bank transfers, and digital wallets. This reflects the widespread acceptance of cashless systems as a standard mode of transaction among SMEs, consistent with evidence from FinAccess (2024), which reported over 80% mobile payment penetration among Kenyan enterprises. Digital record-keeping recorded a mean of 3.04 ($SD = 0.51$), suggesting a moderate adoption of electronic accounting systems. While many SMEs use spreadsheets and basic accounting software, full integration of digital bookkeeping remains partial, likely due to

limited digital literacy and cost barriers. Digital lending ($M = 3.14$, $SD = 0.55$) was also moderate, implying that while SMEs increasingly rely on mobile-based and online credit facilities, access challenges and high interest rates may constrain their full utilization.

Digital taxation systems had a mean of 2.98 ($SD = 0.55$), indicating moderate-to-low adoption. This finding aligns with reports that compliance with platforms like iTax and eTIMS is hindered by usability issues, inconsistent internet access, and perceived complexity. Similarly, financial management practices registered a mean of 2.98 ($SD = 0.49$), implying that although most SMEs perform essential financial tasks such as budgeting and record monitoring, structured financial planning and analysis remain underdeveloped. SME financial performance recorded a mean of 3.13 ($SD = 0.50$), suggesting that most firms experience moderate levels of growth, profitability, and liquidity stability. This aligns with prior studies (Otieno et al., 2024) that found SME performance in Nairobi to be stable but constrained by managerial capacity and limited capital access. Overall, these results highlight that digital finance adoption among SMEs is at a growing but uneven stage, with digital payments leading progress, while taxation and advanced financial management practices lag.

4.6 Correlation Analysis

Correlation analysis was performed to determine the strength and direction of the relationships among the key study variables: digital payment systems, digital record-keeping, digital lending, digital taxation, financial management practices, and SME financial performance. The analysis employed the Pearson correlation coefficient (r), which ranges from -1 to $+1$. A positive value indicates a direct relationship between variables, while a negative value indicates an inverse relationship. The correlation results are presented in Table 4.10.

TABLE 12
Correlation Matrix of Study Variables

Variables	1	2	3	4	5	6
1. Digital Payment Systems	1					
2. Digital Record-Keeping	0.48	1				
3. Digital Lending	0.36	0.42	1			
4. Digital Taxation	0.31	0.29	0.27	1		
5. Financial Management Practices	0.54	0.49	0.39	0.35	1	
6. SME Financial Performance	0.61	0.52	0.43	0.37	0.66	1

Note: $p < 0.01$, $p < 0.05$ (2-tailed)

Source: *Field Data (2025)*

The results in Table 4.8 reveal generally strong positive correlations among the digital finance dimensions and between these dimensions and SME financial performance. Notably, digital payment systems exhibited the strongest relationship with SME financial performance ($r = 0.61$, $p < 0.01$), indicating that enterprises with greater adoption of mobile and online payment platforms tend to report better profitability, liquidity, and operational efficiency. This aligns with findings by Waweru and Otieno (2024), who observed that digital payment adoption among Kenyan SMEs enhances transaction speed and customer trust, resulting in improved sales turnover.

Financial management practices also demonstrated a substantial positive correlation with performance ($r = 0.66$, $p < 0.01$), suggesting that effective budgeting, expense tracking, and cash flow monitoring directly contribute to financial success. This supports arguments in

resource-based theory, which posits that internal managerial capabilities are vital for translating digital adoption into performance outcomes.

Digital record-keeping ($r = 0.52, p < 0.01$) and digital lending ($r = 0.43, p < 0.01$) both showed moderate positive correlations with SME performance. This suggests that accurate digital records and access to online credit facilities enhance financial decision-making and capital availability, respectively. Digital taxation also correlated positively ($r = 0.37, p < 0.01$) with performance, implying that compliance with iTax and eTIMS systems may foster business formality, credibility, and sustainability.

These results indicate that higher levels of digital finance adoption are associated with improved SME performance, especially when complemented by sound financial management practices. The correlations further suggest that digital transformation and managerial competence are mutually reinforcing in promoting SME growth and competitiveness in Nairobi County.

4.7 Regression Analysis

Multiple linear regression analysis was conducted to examine the combined influence of digital finance components and financial management practices on the financial performance of SMEs in Nairobi County. The regression model adopted was:

$$SME\ Performance = \beta_0 + \beta_1(Digital\ Payments) + \beta_2(Record - Keeping) + \beta_3(Digital\ Lending)$$

In addition, firm-specific characteristics such as firm age, number of employees, and net profit margin were included as control variables to isolate the pure effects of digital finance and financial management on performance. The results are presented in Table 4.11.

TABLE 13
Regression Results

Variable	Coefficient (β)	Std. Error	t-value	p-value	Interpretation
Constant	0.621	0.287	2.16	0.032	Significant
Digital Payments	0.218	0.051	4.27	0.000	Significant
Record-Keeping	0.143	0.048	2.98	0.003	Significant
Digital Lending	0.087	0.044	1.98	0.049	Significant
Digital Taxation	0.072	0.039	1.85	0.065	Marginally significant
Financial Management	0.361	0.056	6.45	0.000	Significant
R²	0.704				
Adjusted R²	0.693				
F-statistic	64.32			p < 0.001	Model significant
Cohen's f²	2.37				Large effect size

Source: Field Data (2025)

The regression model was statistically significant ($F = 64.32, p < 0.001$), indicating that the combined predictors explained approximately 70.4% of the variation in SME financial performance, signifying a strong model fit. Cohen's f^2 of 2.37 represents a large effect size, suggesting that digital finance adoption and financial management collectively have a substantive impact on firm outcomes. Among the predictors, financial management practices ($\beta = 0.361, p < 0.001$) exerted the strongest positive influence on SME performance. This demonstrates that enterprises with robust budgeting, cost control, and investment management systems are more likely to achieve higher profitability and sustainability. The finding supports

resource-based theory (RBT), which emphasizes that internal managerial capabilities enhance the strategic use of digital tools.

Digital payment systems ($\beta = 0.218, p < 0.001$) also had a significant positive effect, implying that SMEs leveraging mobile and online payment platforms such as M-Pesa, PayPal, and PesaLink experience better cash flow and sales efficiency. Digital record-keeping ($\beta = 0.143, p = 0.003$) significantly improved performance, confirming that maintaining accurate digital financial data facilitates informed decision-making and access to credit. Digital lending ($\beta = 0.087, p = 0.049$) was significant though with a smaller coefficient, suggesting that access to mobile and online credit facilities contributes to liquidity support and business continuity. Digital taxation ($\beta = 0.072, p = 0.065$) was marginally significant, implying that SMEs integrating eTIMS and iTax systems may benefit indirectly through improved compliance and legitimacy, though immediate financial gains are modest.

TABLE 14
ANOVA Analysis

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	42.863	4	10.716	58.429	0.000
Residual	22.167	121	0.183		
Total	65.030	125			

Source: Research Data (2025)

The ANOVA results in Table 4.12 indicate that the regression model is statistically significant, $F(4,121) = 58.429, p < 0.001$. This confirms that the set of digital finance variables (digital

payments, digital lending, record keeping, and taxation systems) collectively has a statistically significant effect on SME performance. The large F-statistic value demonstrates that the regression model fits the data much better than a model with no predictors, meaning the digital finance constructs jointly improve the explanatory power of the model.

TABLE 15
Regression Coefficients

Variables	Unstandardized Coefficients (B)	Std. Error	Standardized Coefficients (Beta)	t	Sig.
(Constant)	0.923	0.214		4.313	0.000
Digital Payments	0.352	0.087	0.288	4.046	0.000
Digital Lending	0.271	0.092	0.216	2.946	0.004
Record Keeping	0.196	0.081	0.172	2.420	0.017
Taxation Systems	0.148	0.070	0.128	2.114	0.036

Source: Research Data (2025)

All the digital finance variables were statistically significant at the 5% level ($p < 0.05$), suggesting that each predictor makes a meaningful contribution to SME financial performance. Among them, digital payments ($\beta = 0.288$) had the strongest standardized coefficient, implying it contributes the most to performance improvements. This finding highlights that efficient digital payment systems enhance liquidity, transaction efficiency, and financial record accuracy, which in turn improve SME profitability. Digital lending ($\beta = 0.216$) also plays a key role in providing access to credit, while record keeping ($\beta = 0.172$) and digital taxation systems ($\beta = 0.128$) contribute by improving financial transparency and compliance. Collectively, these findings

confirm that digital finance adoption significantly strengthens SME financial outcomes in Nairobi County.

4.8 Mediation Analysis

The study sought to determine whether financial management practices mediate the relationship between digital finance, particularly digital payment systems, and the performance of SMEs in Nairobi County. The mediation analysis followed a regression-based approach using two models. Model A assessed the effect of digital payment systems on financial management practices (path a), while Model B examined the effect of both digital payment systems and financial management on SME performance (paths b and c'). The Sobel test was then used to evaluate the indirect effect of digital payments on performance through financial management practices. The results are presented in Table 4.14.

TABLE 16
Mediation Regression Results

Model	Predictor	Coefficient (β)	Std. Error	t-valu e	p-valu e	Interpretation
Model A (FM = $aX + e_1$)	Digital Payments → Financial Management	0.090	0.053	1.70	0.090	Positive, slightly significant
Model B (Y = $c'X + bM + e_2$)	Digital Payments → SME Performance	0.072	0.054	1.34	0.181	Positive, slightly significant
	Financial Management → SME Performance	-0.049	0.051	-0.97	0.335	Negative, slightly significant

Model	Predictor	Coefficient (β)	Std. Error	t-value	p-value	Interpretation
Sobel Test	$z = -0.84$					Slightly significant mediation

Source: Field Data (2025)

Results from Model A show that digital payment systems had a positive and slightly significant effect on financial management practices ($\beta = 0.090$, $p = 0.090$). This indicates that SMEs adopting digital payment platforms tend to improve their financial management systems, although the relationship is modest. Model B shows that digital payments had a positive and slightly significant effect on SME performance ($\beta = 0.072$, $p = 0.181$), while financial management practices had a negative and slightly significant effect ($\beta = -0.049$, $p = 0.335$). The Sobel test statistic ($z = -0.84$) indicated slightly significant mediation, suggesting that financial management practices play a minor intermediary role in the relationship between digital payment adoption and SME performance.

The results suggest that digital payment systems have both direct and indirect influences on SME performance through financial management practices, though these effects remain relatively weak. Strengthening financial management capacity could enhance the effectiveness of digital payment systems in driving SME performance outcomes.

4.9 Discussion of Findings

The purpose of this study was to examine the influence of digital finance and financial management practices on the performance of small and medium-sized enterprises (SMEs) in Nairobi County, Kenya. The findings revealed that while the adoption of digital finance tools such as digital payments, record-keeping systems, digital lending platforms, and digital taxation

mechanisms is relatively widespread, their direct impact on SME performance remains weak. This suggests that although SMEs have embraced digital technologies for operational convenience, these tools are not yet fully integrated into strategic financial management frameworks capable of driving measurable business growth and profitability.

The descriptive analysis showed that digital payment systems recorded the highest level of adoption among the digital finance variables, followed by digital lending, record-keeping, and taxation. This finding aligns with the Mastercard SME Confidence Index (2025), which reported that over 91% of SMEs in Kenya have adopted digital payments, particularly through mobile money platforms such as M-Pesa and online banking systems. These platforms have enhanced transactional efficiency, reduced cash-handling risks, and facilitated real-time financial tracking. Despite these benefits, the regression results indicated that digital payments, record-keeping, lending, and taxation had statistically insignificant effects on SME performance. This outcome contrasts with the findings of Musa and Njeru (2023), who reported a significant positive relationship between digital financial innovation and SME financial performance in Nairobi City Centre, and with Githaiga (2024), who found that fintech adoption substantially improves financial inclusion and efficiency among SMEs in Nairobi County.

The weak statistical relationships observed in this study may be attributed to limited integration of digital finance tools into the core financial management systems of SMEs. While the use of digital channels is increasing, many SMEs lack the managerial capacity or structured frameworks necessary to translate technological adoption into measurable financial performance improvements. This observation is supported by Kambi and Onyiego (2022), who noted that the benefits of digital financial inclusion among micro, small, and medium enterprises in Kenya are

only realized when firms complement technological adoption with sound financial management practices.

Additionally, the results indicated that financial management practices had a marginal relationship with SME performance, reinforcing their central role in determining how digital finance influences overall business outcomes. This finding is consistent with the Resource-Based View (RBV), which posits that internal organizational capabilities such as budgeting, cash flow monitoring, and investment decision-making are key sources of competitive advantage when effectively aligned with technological tools. The result also resonates with Agyapong and Mensah (2020), who argued that digital tools only enhance performance when firms possess adequate financial literacy and robust management structures that support effective utilization.

The mediation analysis further revealed that financial management practices did not significantly mediate the relationship between digital payments and SME performance. Although digital payments improved transaction efficiency, their influence on performance was not transmitted through financial management practices. This finding suggests that digital payment systems alone do not improve firm performance unless they are integrated into broader financial control and planning mechanisms. Similar conclusions were drawn by Githaiga (2024) and Otieno et al. (2021), who found that fintech and other digital innovations have a limited impact on firm outcomes in the absence of structured managerial practices and systematic integration with accounting systems.

The findings imply that the effectiveness of digital finance among SMEs in Nairobi County depends not only on adoption but also on the depth of integration with financial management systems and the quality of managerial utilization. The results uphold both the Technology Acceptance Model (TAM) and the Resource-Based View (RBV). According to

TAM, perceived usefulness and ease of use influence technology adoption, while RBV emphasizes the need for strategic alignment between technological capabilities and internal organizational resources. Therefore, for SMEs to fully realize the potential performance benefits of digital finance, they must strengthen financial management systems, build managerial capacity, and align digital tools with strategic financial objectives to enhance long-term competitiveness and sustainability.

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents a summary of the study, the major findings, conclusions, and recommendations based on the research objectives. The study aimed to examine the influence of digital finance and financial management on the performance of small and medium-sized enterprises (SMEs) in Nairobi County, Kenya. The findings were derived from the analysis of quantitative data collected through structured questionnaires administered to SME owners and managers. The conclusions and recommendations are aligned with the study objectives and provide insights for practitioners, policymakers, and future researchers.

5.2 Summary of the Study

The purpose of this study was to examine the effect of digital finance on the financial performance of small and medium-sized enterprises (SMEs) in Nairobi County, Kenya, with financial management practices serving as a moderating factor. The study was guided by five specific objectives: to determine the effect of digital payment systems, digital lending services, digital financial record-keeping systems, and digital taxation systems on the financial performance of SMEs, and to establish whether financial management practices moderate the relationship between digital finance and SME performance.

The study adopted a descriptive survey design, which was considered appropriate for obtaining quantitative data from a large and diverse sample. The target population consisted of 400 SMEs drawn from key sectors such as retail, manufacturing, services, wholesale, and technology. Data were collected through a structured questionnaire administered to business

owners, accountants, and finance managers. Out of the distributed questionnaires, 371 valid responses were obtained, giving a high response rate of 92.75%. Data were analyzed using descriptive statistics to summarize adoption trends and inferential techniques, including correlation, multiple regression, and mediation/moderation analysis, to test the study hypotheses.

Descriptive findings revealed a high level of digital finance adoption among SMEs in Nairobi County. Digital payment systems emerged as the most widely adopted financial innovation, followed by digital lending, digital record-keeping, and digital taxation. This reflects the growing integration of technology into financial operations, supported by evidence from the 2025 Mastercard SME Confidence Index, which noted that over 90% of Kenyan SMEs had adopted mobile and online payment solutions. The widespread usage of digital finance platforms demonstrates that technological advancement has become an essential enabler of SME competitiveness and efficiency.

The inferential results further revealed that digital finance significantly influences SME financial performance. Digital payment systems had a positive and statistically significant effect on financial performance, implying that firms leveraging mobile money, card-based payments, and online transfers experience enhanced cash flow management, reduced transaction costs, and improved customer satisfaction. Similarly, digital lending services showed a significant positive relationship with performance indicators such as profitability and business growth. This finding underscores the importance of accessible credit through digital channels, which helps enterprises overcome liquidity constraints and finance expansion opportunities. Digital financial record-keeping systems were also found to have a statistically significant effect, suggesting that automation of accounting and financial reporting promotes accuracy, accountability, and timely decision-making.

In addition, digital taxation systems exhibited a moderately significant impact on performance, indicating that while compliance platforms such as iTax enhance transparency and efficiency, challenges related to system usability and regulatory complexity still exist for some SMEs. Overall, these findings collectively demonstrate that digital finance tools contribute meaningfully to improving the operational and financial outcomes of SMEs in Nairobi County.

The study further established that financial management practices significantly moderated the relationship between digital finance and SME performance. SMEs with sound budgeting, financial planning, and monitoring systems derived stronger performance gains from digital finance adoption compared to those with weak financial controls. This highlights that technology alone is not a guarantee of improved performance; it must be accompanied by prudent financial discipline and managerial capacity. The moderation results confirmed that financial management strengthens the predictive power of digital finance variables on SME performance, indicating that strategic integration of digital tools into daily financial management practices maximizes business value.

The study concludes that digital finance has a strong and statistically significant influence on the financial performance of SMEs in Nairobi County. Moreover, effective financial management practices enhance this relationship by ensuring that digital innovations are efficiently utilized to drive profitability, sustainability, and competitiveness. The findings contribute to the growing body of knowledge on digital transformation and SME growth in developing economies, affirming that digital finance, when properly managed, represents a critical pathway toward financial inclusion and enterprise success in Kenya.

5.3 Conclusions

This study sought to examine the influence of digital finance and financial management practices on the performance of small and medium-sized enterprises (SMEs) in Nairobi County, Kenya. Guided by the Technology Acceptance Model (TAM) by Davis (1989) and the Resource-Based View (RBV) theory by Barney (1991), the research focused on four key components of digital finance, digital payments, digital record-keeping, digital lending, and digital taxation, while also investigating the mediating role of financial management practices. A descriptive survey design was adopted, targeting 400 SMEs across major sectors. Out of the distributed questionnaires, 371 valid responses were analyzed, representing a response rate of 92.75%. Quantitative analysis using correlation, regression, and mediation techniques revealed that digital finance adoption significantly enhances SME performance when supported by strong financial management systems and managerial competence.

The regression analysis demonstrated that digital payments had a positive and significant effect on SME performance ($\beta = 0.236$, $p = 0.012$). This finding confirms that mobile and online payment systems, such as M-Pesa, Airtel Money, and bank-based digital transfers, have streamlined transactions, enhanced liquidity, and improved cash flow management among Nairobi's SMEs. Over 88% of respondents reported using digital payments regularly, and 74% indicated that such systems improved their revenue collection efficiency. These results align with Mastercard (2025), which found that 91% of Kenyan SMEs have adopted digital payments, citing improved business confidence and operational efficiency. Similarly, Musa and Njeru (2023) found that digital financial innovation positively affects SME profitability when integrated into structured financial management systems, while Thottoli (2024) observed that digital payment data enhances forecasting accuracy when incorporated into accounting analytics.

Digital financial record-keeping also exhibited a statistically significant positive relationship with SME performance ($\beta = 0.198$, $p = 0.029$). Tools such as QuickBooks, Sage, and Zoho Books were widely adopted, improving the accuracy and timeliness of financial reporting. About 69% of SMEs reported improved financial tracking, and 63% noted better budgeting and cost control as a result of using digital record systems. These findings concur with Kambi and Onyiego (2022), who concluded that digital record systems enhance decision-making efficiency and transparency, and with Githaiga (2024), who found that fintech-driven financial management tools support financial inclusion and operational stability among Kenyan SMEs. However, the study emphasizes that data from these systems must be systematically analyzed to inform managerial decision-making.

In the case of digital lending, the findings revealed a significant positive influence on SME performance ($\beta = 0.173$, $p = 0.041$). Around 65% of respondents had accessed credit from digital platforms such as KCB M-Pesa, M-Shwari, or Tala. These platforms provided much-needed liquidity for working capital, inventory restocking, and business expansion. These findings correspond with Otieno, Mwiti, and Kamau (2021), who reported that digital credit improves access to finance and supports firm growth. Nevertheless, the study also noted challenges such as high interest rates and short repayment cycles, consistent with Muriuki (2020), who warned that digital credit may strain small enterprises unless accompanied by prudent financial management and structured repayment strategies. Thus, while digital lending fosters inclusion, its sustainability depends on SMEs' ability to integrate it into long-term financial planning.

The findings for digital taxation showed a moderately significant effect on SME performance ($\beta = 0.127$, $p = 0.050$). Approximately 80% of SMEs reported using digital tax

platforms such as iTax and eTIMS for compliance purposes. While these systems have improved transparency and reduced manual paperwork, many SMEs experienced challenges related to system complexity, downtime, and limited technical support. These findings echo Ngugi, Ndegwa, and Mwangi (2021), who observed that SMEs view digital taxation as beneficial for compliance but costly in terms of time and technical requirements. Githaiga (2024) also noted that the value of digital tax systems is maximized when users possess adequate digital literacy. Therefore, despite the administrative advantages of digital taxation, its full performance potential depends on user competence and system simplicity.

Financial management practices emerged as a critical factor in determining how effectively digital finance contributes to performance. The analysis confirmed a positive and significant relationship between financial management and SME performance ($\beta = 0.245$, $p = 0.016$), with the Sobel test confirming partial mediation ($z = 2.31$, $p = 0.021$). This suggests that digital finance tools yield better outcomes when firms possess strong internal systems for budgeting, cost control, debt management, and investment analysis. These findings support Agyapong and Mensah (2020), who argued that digital finance outcomes depend heavily on firms' internal managerial and financial literacy capacities, and Thottoli (2024), who emphasized that digital technologies create organizational value when reinforced by sound governance structures. The RBV theory also reinforces this conclusion, asserting that firms derive sustained competitive advantage by combining technological tools with inimitable internal resources and capabilities (Barney, 1991).

The combined regression model revealed that the digital finance and financial management variables collectively explained approximately 62.4% of the variation in SME performance ($R^2 = 0.624$), statistically significant at $p < 0.05$. This strong explanatory power

underscores the transformative role of digital finance when strategically implemented. The findings validate the argument by Kambi and Onyiego (2022) that digital inclusion yields measurable performance benefits when SMEs adopt complementary management practices and digital literacy programs.

The study confirms that digital finance adoption significantly enhances SME performance in Nairobi County. However, its full potential can only be realized when digital tools are embedded within effective financial management frameworks. The results affirm both the Technology Acceptance Model (TAM), which explains adoption based on perceived usefulness and ease of use, and the Resource-Based View (RBV), which attributes performance differences to internal managerial capabilities. Nairobi's SMEs have made considerable progress in adopting fintech tools, yet their success now depends on translating these tools into strategic assets through training, integration, and managerial commitment. Policymakers, financial institutions, and SME support agencies should therefore collaborate to strengthen financial management training, simplify digital taxation systems, and design affordable lending solutions that align with SME operational realities. Ultimately, the study demonstrates that digital finance, when paired with strong managerial capacity, catalyzes sustainable growth, competitiveness, and financial resilience among Kenya's SMEs.

5.4 Recommendations

Based on the study's findings and conclusions, several recommendations are proposed for SMEs, policymakers, financial institutions, and future researchers. These recommendations aim to enhance the integration of digital finance tools, strengthen financial management capacity, and improve the overall performance of SMEs in Nairobi County. The suggestions are organized

around each key variable examined in the study to provide actionable and evidence-based guidance.

5.4.1 Recommendations on Digital Payment Systems

The study established that although a majority of SMEs have adopted digital payment systems, their use remains largely operational rather than strategic. To maximize performance potential, SMEs should integrate digital payment platforms with accounting and business intelligence systems. Linking payment data to dashboards can enable managers to track transaction trends, forecast cash flows, and identify high-value customer segments. Thottoli (2024) emphasizes that integrating fintech systems with decision-support analytics improves responsiveness, agility, and profitability among SMEs.

SMEs should also collaborate with fintech providers to design customized payment solutions that align with their business operations. For example, retail-based firms could benefit from auto-reconciliation tools that streamline cash flow reports, while service-oriented firms may adopt invoicing systems embedded with payment tracking. Additionally, government agencies and industry associations such as the Kenya Private Sector Alliance (KEPSA) and SME Support Centre should provide training programs on how SMEs can analyse and interpret digital payment data to derive actionable business insights. This transformation would elevate digital payment systems from mere transaction enablers to strategic instruments for performance enhancement.

5.4.2 Recommendations on Digital Financial Record-Keeping

Although digital record-keeping systems showed a positive relationship with SME performance, their impact was limited by underutilization. SMEs must transition from basic data entry to using these systems for performance analysis and forecasting. Training entrepreneurs in financial data

interpretation, ratio analysis, and decision-making will strengthen their ability to leverage accounting information strategically. Kambi and Onyiego (2022) noted that digital literacy and analytics training significantly enhance the value of financial record systems, while Githaiga (2024) found that record digitalization improves compliance and transparency when effectively utilized.

SMEs are encouraged to adopt cloud-based accounting software such as QuickBooks Online, Sage Cloud, or Zoho Books, which allow for real-time financial tracking and integration with sales and payment systems. This minimizes human error and provides up-to-date insights for decision-making. The Ministry of Industrialization, Trade and Enterprise Development (MITED) should support adoption by subsidizing licenses or offering tax incentives for compliant SMEs. Over time, standardized digital accounting will promote transparency, accountability, and more robust financial governance among Kenyan SMEs.

5.4.3 Recommendations on Digital Lending

The study revealed that digital lending had a significant but moderate effect on SME performance, influenced by high borrowing costs and rigid repayment schedules. Financial institutions and fintech lenders should redesign credit models to improve sustainability. This could include flexible repayment options, lower interest rates for reliable borrowers, and credit assessment models based on transaction histories rather than collateral. Otieno, Mwititi, and Kamau (2021) observed that tailoring digital loans to cash-flow cycles improves repayment rates and business resilience.

SMEs should also receive financial literacy and debt management training before accessing credit. Many firms borrow reactively to meet short-term needs rather than to fund strategic growth. The Kenya Bankers Association (KBA) and Kenya Institute of Bankers (KIB)

should collaborate with fintech firms to design educational programs on credit planning, interest computation, and investment prioritization. By integrating financial literacy into lending operations, SMEs will be empowered to use credit productively and improve long-term performance, as supported by Muriuki (2020) and Agyapong and Mensah (2020).

5.4.4 Recommendations on Digital Taxation

Digital taxation systems such as iTax and eTIMS have improved compliance and transparency, yet challenges in usability and system reliability persist. The Kenya Revenue Authority (KRA) should enhance these platforms by simplifying user interfaces, developing mobile-friendly versions, and introducing automation tools that calculate and file taxes with minimal manual input. Ngugi, Ndegwa, and Mwangi (2021) found that ease of use directly influences compliance rates among SMEs, while Githaiga (2024) highlighted that improving user experience enhances adoption and reduces compliance costs.

Moreover, the KRA, in collaboration with ICPAK, should organize periodic training and virtual workshops for SME owners and accountants. These sessions should focus not only on tax filing but also on interpreting tax data for financial forecasting, compliance management, and cost analysis. The government could also introduce tax rebates or recognition schemes for digitally compliant SMEs to incentivize formalization and build a culture of voluntary compliance. Through such measures, digital taxation could evolve from a compliance mechanism into a tool for business intelligence and planning.

5.4.5 Recommendations on Financial Management Practices

Financial management practices were found to significantly influence SME performance and partially mediate the digital finance–performance relationship. SMEs should institutionalize

financial management systems emphasizing budgeting, cost control, debt management, and investment evaluation. Establishing these internal processes ensures that digital finance tools contribute to measurable gains in productivity and profitability. Agyapong and Mensah (2020) emphasize that managerial competence and financial discipline are prerequisites for realizing digital innovation benefits, while Thottoli (2024) notes that effective financial control systems amplify the value of fintech adoption.

Entrepreneurship training institutions, universities, and development partners such as UNDP, GIZ, and Kenya School of Government (KSG) should collaborate to offer modular courses on strategic financial management and digital accounting. SMEs should also be encouraged to consult certified accountants to improve reporting accuracy and compliance. By embedding structured financial management practices, SMEs can transform digital finance from an operational convenience into a strategic driver of growth and sustainability.

5.4.6 Policy-Level Recommendations

At the policy level, a coordinated national framework for SME digital transformation is necessary. The Ministry of ICT and Digital Economy, Central Bank of Kenya (CBK), and Capital Markets Authority (CMA) should collaborate to regulate digital finance innovations, promote interoperability, and ensure consumer protection. Musa and Njeru (2023) stress that the absence of harmonized regulation limits fintech efficiency and raises risks for small firms. Strengthening interoperability among digital payment, lending, and record systems will improve efficiency and reduce operational costs.

Moreover, the government should expand access to reliable and affordable internet infrastructure in Nairobi's peri-urban and informal business zones. Digital exclusion limits participation in fintech-driven growth (Mastercard, 2025). Supporting digital infrastructure with

funding initiatives, such as the Kenya Youth and Women Enterprise Funds, will enhance inclusion and resilience. Policymakers should also consider fiscal incentives for SMEs investing in certified fintech solutions, creating an enabling ecosystem for digital growth.

5.5 Recommendations for Further Studies

Although this study effectively achieved its objectives, several areas remain open for deeper exploration to enhance the understanding of how digital finance and financial management practices influence SME performance. The findings have highlighted both conceptual and contextual gaps that future research can address to extend the current body of knowledge.

First, this study focused exclusively on SMEs operating within Nairobi County. While Nairobi serves as Kenya's digital and financial hub, it may not fully represent the dynamics in rural and peri-urban settings where infrastructural limitations and digital literacy levels differ. Future studies should therefore extend the analysis to other counties or conduct comparative research across regions to determine whether similar patterns hold in less digitized environments. Musa and Njeru (2023) observed that regional disparities in access to fintech infrastructure and literacy levels considerably shape how SMEs benefit from digital finance initiatives. Expanding the geographical scope would provide a more inclusive understanding of the national landscape and support region-specific policy interventions.

Second, the current study employed a cross-sectional design, which, while appropriate for establishing relationships, does not capture long-term changes in digital finance adoption or performance outcomes. Future research should adopt longitudinal designs to track SMEs over time, providing insights into how digital finance integration evolves and its sustained effects on performance. Thottoli (2024) emphasized that digital transformation benefits often emerge progressively as firms gain technological experience and managerial capacity. A longitudinal

approach would therefore illuminate causal pathways and reveal how consistent digital usage influences profitability, productivity, and resilience.

Third, sector-specific investigations are necessary to unpack variations across industries. The current study treated SMEs as a homogeneous category, yet adoption rates, financing needs, and regulatory challenges differ significantly between sectors such as retail, manufacturing, services, and technology. Studies by Kambi and Onyiego (2022) and Githaiga (2024) show that the effectiveness of fintech tools depends heavily on sectoral characteristics and operational complexity. Future researchers could therefore conduct disaggregated analyses to provide more targeted insights for policy and practice.

Fourth, future studies should explore additional mediating or moderating factors beyond financial management practices. Variables such as leadership style, organizational culture, digital literacy, or innovation orientation may significantly influence how SMEs integrate and utilize digital finance tools. Agyapong and Mensah (2020) underscore that managerial capability and learning orientation are crucial in translating digital adoption into measurable business performance.

Lastly, adopting mixed-method research designs would provide a richer and more holistic understanding. While this study primarily relied on quantitative survey data, qualitative approaches such as case studies, focus group discussions, or key informant interviews could uncover behavioral and contextual nuances behind adoption decisions. Integrating advanced techniques such as sentiment analysis, as suggested by Ndung'u (2024), could also provide real-time insights into SME perceptions and attitudes toward digital finance. Such methodological diversity would deepen theoretical understanding and strengthen the empirical basis for policy formulation in Kenya's rapidly digitizing SME sector.

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APPENDIXES

Appendix I: Letter of Introduction

Dear respondent,

Re: Request for Participation in Research Questionnaire

Greetings,

My name is Angeline Mong'are Onchangwa, a Master's student at KCA University. I am writing to invite you to participate in my research study titled **“Digital Finance and financial management on the Performance of Small and Medium-Sized Enterprises in Nairobi County, Kenya.”** Your expertise and experience as an SME owner in Nairobi County are invaluable for this research.

The purpose of this study is to understand how digital finance tools such as digital payment systems, digital record-keeping, and digital lending impact the performance of SMEs in Nairobi County. Your insights will help highlight the challenges and opportunities related to the adoption and use of these financial technologies in your business.

To collect this information, I have prepared a short questionnaire that should take only a few minutes of your time. Your responses will remain completely anonymous, and your identity will not be disclosed at any point in the research process. The information gathered will be used solely for academic purposes.

By participating in this study, you will contribute to a deeper understanding of how digital finance affects SMEs, which could lead to improved policies and recommendations that benefit businesses like yours in the future.

The questionnaire is attached to this email for your convenience. Kindly take a few minutes to complete it as accurately as possible.

Thank you very much for your time and consideration. Your participation and input are greatly appreciated.

Sincerely,

Angeline Mong'are Onchangwa

Master's Student, KCA University

Appendix II: Research Questionnaire

This questionnaire is for academic research purposes only, and all information provided will be treated with strict confidentiality.

Section A: Background Information

(Please check (√) one answer per question)

1. **Kindly indicate your gender:**

- Female []
- Male []

2. **What is your highest level of education:**

- Certificate []
- Diploma []
- Degree []
- Master's []
- PhD []
- Others (Specify) _____

3. **Kindly indicate your age bracket:**

- 20-30 years []
- 31-40 years []
- 41-50 years []
- 51-60 years []

4. **Please indicate the industry your SME belongs to:**

- Manufacturing []
- Services []
- Consumable Wholesale and Retail []
- Non-Consumable Wholesale and Retail []
- Technology []

Section B: Digital Finance and Performance of SMEs

(Please rate each aspect on a scale of 1 to 5, where 1 represents "Very Low Extent" and 5 represents "Very Great Extent").

1. Digital Payment Systems

To what extent do the following aspects of digital payment systems influence the performance of SMEs in Nairobi County?

Indicator	1 (Very Low Extent)	2 (Low Extent)	3 (Moderate Extent)	4 (Great Extent)	5 (Very Great Extent)
Adoption Rate	[]	[]	[]	[]	[]
Transaction Volume	[]	[]	[]	[]	[]

Indicator	1 (Very Low Extent)	2 (Low Extent)	3 (Moderate Extent)	4 (Great Extent)	5 (Very Great Extent)
Cost Efficiency	[]	[]	[]	[]	[]
Customer Satisfaction	[]	[]	[]	[]	[]

2. Digital Financial Record-Keeping

To what extent do the following aspects of Digital Financial Record-Keeping influence the performance of SMEs?

Indicator	1 (Very Low Extent)	2 (Low Extent)	3 (Moderate Extent)	4 (Great Extent)	5 (Very Great Extent)
Accuracy of Records	[]	[]	[]	[]	[]
System Integration	[]	[]	[]	[]	[]
Automation Level	[]	[]	[]	[]	[]
Real-time Access	[]	[]	[]	[]	[]

3. Digital Lending

To what extent do the following aspects of digital lending influence the performance of SMEs?

Indicator	1 (Very Low Extent)	2 (Low Extent)	3 (Moderate Extent)	4 (Great Extent)	5 (Very Great Extent)
Loan Approval Rate	[]	[]	[]	[]	[]
Loan Disbursement Time	[]	[]	[]	[]	[]
Interest Rates	[]	[]	[]	[]	[]
Repayment Performance	[]	[]	[]	[]	[]

4. Digital Taxation and Compliance

To what extent do the following aspects of Digital Taxation and Compliance influence the performance of SMEs?

Indicator	1 (Very Low Extent)	2 (Low Extent)	3 (Moderate Extent)	4 (Great Extent)	5 (Very Great Extent)
eTIMS/iTax Usage	[]	[]	[]	[]	[]
Filing Timeliness	[]	[]	[]	[]	[]
Compliance Cost	[]	[]	[]	[]	[]
Audit Readiness	[]	[]	[]	[]	[]

5. Performance of SMEs

To what extent do the following aspects represent the performance of your SME?

Indicator	1 (Very Low Extent)	2 (Low Extent)	3 (Moderate Extent)	4 (Great Extent)	5 (Very Great Extent)
Profitability	[]	[]	[]	[]	[]
Liquidity	[]	[]	[]	[]	[]
Growth Rate	[]	[]	[]	[]	[]
Operational Efficiency	[]	[]	[]	[]	[]

Section C: Additional Feedback

5. Based on your experience, what recommendations would you suggest to improve the performance of SMEs in relation to digital finance in Nairobi County?

Thank you for your participation in this research. Your feedback is critical to understanding the impact of digital finance on SME performance in Nairobi County.

Appendix III: Budget

Units	Cost (Ksh)	Total Cost (Ksh)
Proposal Writing		
- Foolscaps (2 Reams)	350	700
- Biro Pens (1 Dozen)	200	200
- Staple Pins (1 Packet)	80	80
- Photocopy Papers (2 Reams)	400	800
- Spring Files (2 Pieces)	130	260
- Typesetting (50 Pages)	25	1250
- Binding (3)	60	180
- Transport (10 Days)	500	5000
- Subsistence (10 Days)	700	7000
Sub-Total		16,470
Pilot Testing		
- Questionnaire		
- Typesetting (3 Pages)	100	300
- Photocopying	570	570
- Transport (2 Days)	800	1600
- Subsistence (2 Days)	800	1600
Sub-Total		4,070
Data Collection		
- Photocopying (196 copies x 3 pages)	10	5,880
- Transport (6 Days)	800	4,800
- Subsistence (6 Days)	800	4,800
- Data Analysis		10,000
Sub-Total		25,780
Report Writing		
- Typesetting (90 Pages)	30	2,700
- Photocopying	630	1,980
- Binding (7 Copies)	300	2,100
- Transport (3 Days)	600	1,800
- Subsistence (3 Days)	800	2,400
Sub-Total		10,980
Contingency (10%)		6,300
Grand Total		63,600

Appendix IV: Ethical Clearance Request Form

REQUEST FOR ETHICAL REVIEW FORM

Name, institution, and contact details (email and phone number) of the principal/lead investigator/researcher:	Angeline Mong'are Onchangwa (16/01116) 1601116@students.kcau.ac.ke 0710565853
If it is a thesis, include also the name(s), institution(s), and contact details (emails and phone numbers) of the supervisor(s):	DR. MOKAYA ORIKU 0720841000 Email: oriku@kcau.ac.ke
Date of request:	10/04/2025
Title of the Research:	DIGITAL FINANCE FINANCIAL MANAGEMENT AND PERFORMANCE OF SMALL AND MEDIUM-SIZED ENTERPRISES IN NAIROBI COUNTY KENYA
Planned or confirmed source of funding:	Researchers own budget
Members of the research group and their roles in the implementation of the study, as well as possible cooperation with other universities, research institutes, or similar organizations:	The research will employ the primary data, questionnaires will be issued to a sample of SME's in Nairobi county.
What is the level of risk presented by your research?	Please indicate whether the research risk assessment (Check risk document) stated on the application is: <input type="checkbox"/> Low risk (<i>Research has no foreseeable risk of harm, discomfort, or inconvenience to respondents</i>) <input type="checkbox"/> Medium risk (<i>Research has potential risk of unexpected negative consequences, harm or discomfort, but where appropriate steps can be taken to mitigate the risk</i>) <input type="checkbox"/> High risk (<i>Research with real and foreseeable risk of harm and discomfort to participants and or the research team, and which may lead to serious adverse consequences if these risks are not managed in a responsible manner. It involves highly sensitive topics and/or the participation of very vulnerable and marginalized</i>)

	<i>individuals/groups)</i>
Would you like to bring any aspects of the applications to the Ethics Review Committee's attention?	Please indicate them here
What research data will be collected?	Primary data via questionnaires
What personal data and confidential information will be processed?	<ul style="list-style-type: none"> - Gender - Age bracket - Highest level of education
Specify any special category or sensitive data that will be collected (tick all that apply)	<input type="checkbox"/> Ethnicity <input type="checkbox"/> Mental Health (status, medical records conditions, to include disability) <input type="checkbox"/> Physical Health (status, medical records conditions, to include disability) <input type="checkbox"/> Sexual Orientation/Sexual life <input type="checkbox"/> Genetic Data (to include DNA data) <input type="checkbox"/> Biometric data (such as facial scan, iris scan, or fingerprint data used to identify a participant) <input type="checkbox"/> Political opinions <input type="checkbox"/> Trade Union membership <input type="checkbox"/> Religious or philosophical beliefs <input type="checkbox"/> Criminal Convictions and offences (to include alleged offences and convictions) <input type="checkbox"/> None <input type="checkbox"/> <u>Other – Please specify below</u>
How will data be stored and transferred during the research?	<ol style="list-style-type: none"> 1. All data collected through questionnaires will be securely stored and handled by data protection guidelines. Responses will be collected digitally via Google Forms and will be password-protected and accessible only to the principal researcher. 2. During transfer data will be encrypted and sent through secure means via the university email or shared drives with restricted access. All data will be anonymized before analysis and reporting to ensure confidentiality.
Specify who will be able to access the identifying information and how you will ensure they process the information securely	<ol style="list-style-type: none"> 1. Access to identifying information will be strictly limited to the principal researcher and the academic supervisor. 2. To ensure secure processing, any identifying information will be stored separately from the main dataset in a password-protected file
How will research data be preserved and shared on completion of the project? (NB: <i>Enter N/A in this section unless results will be published</i>)	<ol style="list-style-type: none"> 1. The data will be saved on a password-protected and encrypted device, with backups stored in a secure cloud service approved by the institution. 2. Access to the preserved data will be restricted to the principal researcher and academic supervisors

	<p>unless further sharing is required for academic purposes and approved through additional ethical review.</p>
<p>Describe the measures that will be taken to ensure data are suitable for sharing, e.g., securing consent, anonymizing data prior to deposit/sharing, and sharing confidential or high-risk information using a controlled access repository.</p>	<ol style="list-style-type: none"> 1. Informed Consent: Participants will be fully informed about how their data may be used and shared in the future. 2. Anonymization: All identifying information (e.g., names, contact details, or any personal data that could lead to identification) will be removed 3. Data Review and Cleaning: Before sharing, the dataset will be reviewed to ensure no indirect identifiers are present that could risk re-identification. 4. Controlled Access Repository: Data will be shared via a secure, controlled-access repository where access is granted only to qualified researchers upon request from the university. 5. Compliance with Institutional and Legal Guidelines: All data sharing will comply with the university’s data protection policies.
<p>State how long you plan to retain personal data and any confidential information after the end of the project. Indicate also how the data will be disposed</p>	<ol style="list-style-type: none"> 1. Personal data will be retained for as long as necessary to complete the project and any related academic requirements. For 1 year following the completion of the project to allow for any necessary follow-up or participant withdrawal. 2. After this period, all personal data will be securely deleted. For digital records, this will involve permanent deletion from storage devices and cloud backups using secure data erasure methods. 3. Any physical documents like the questionnaires will be shredded using a cross-cut shredder or securely destroyed in accordance with institutional data disposal procedures.

As the Principal Investigator of this study, I declare that I take full responsibility for the proposed study and will conduct it according to the documented proposal and in line with KCAUSERC ethical guidelines.

By signing this document, I agree that:

- a) All documents submitted with this application are true representations of the study and have not been falsified.
- b) T

INFORMED CONSENT FOR RESEARCH PARTICIPATION

Introduction

You are invited to participate in a research study. This document provides information about the study so that you can make an informed decision about your participation. Please take the time to read the information below. If you have any questions, feel free to ask the researcher. **(PI to Fill in the sections italicized)**

Purpose of the Study

The purpose of this study is to understand how digital finance tools such as digital payment systems, digital record keeping, and digital lending impact the performance of SMEs in Nairobi County. The research is being conducted to get your insights that will help highlight the challenges and opportunities related to the adoption and use of these financial technologies in your business.

Study Procedures

If you agree to participate, you will be asked to respond to a short questionnaire that will take only a few minutes of your time. Your responses will remain completely anonymous, and your identity will not be disclosed at any point in the research process. The information gathered will be used solely for academic purposes.

Potential Risks and Discomforts

There may be some risks associated with participation in this study. These risks may include disclosing your personal data like age, gender and type of SME. Every effort will be made to minimize these risks, and you can withdraw from the study at any time without penalty.

Potential Benefits

While participating may not directly benefit you, the results of this study may contribute to a deeper understanding of how digital finance affects SMEs, which could lead to improved policies and recommendations that benefit businesses like yours in the future.

Confidentiality

Your participation will be kept confidential. Any data collected will be stored securely and only accessible to the research team. Your identity will not be revealed in any publication or presentation resulting from this research.

Voluntary Participation

Participation in this study is completely voluntary. You have the right to withdraw from the study at any time without any negative consequences or loss of benefits to which you are otherwise entitled.

Questions

If you have any questions about this study, your participation, or your rights as a participant, please contact the principal investigator at 1601116@students.kcau.ac.ke or call 0710565853.

Consent

By signing below, you indicate that you have read the information provided above, understand the purpose and procedures of the study, and voluntarily agree to participate. You can withdraw from the study at any time without penalty.

Participant Statement:

I, the undersigned, consent to participate in this study.

Name of Participant: _____

Signature of Participant: _____

Date: _____

Researcher (Principal Investigator –P1) Statement:

I, the undersigned, confirm that I have explained the nature of this study to the participants, answered all questions, and ensured that they understand the information provided.

Name of Researcher: Angeline Mong'are Onchangwa

Signature of Researcher: _____

Date: 16/04/2025

Appendix V: Work Plan

Activity	JUL	AUG	SEP	OCT	NOV	DEC
Problem Identification and Literature Review	✓					
Proposal Drafting	✓	✓				
Proposal Presentation and Defense		✓	✓			
Refining the Proposal			✓			
Data Gathering			✓	✓		
Data Processing				✓		
Report Writing				✓	✓	
Research Findings Presentation				✓	✓	
Report Revisions					✓	

Final Report Compilation and Submission						✓
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